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ABSTRACT

This handbook provides nutrition activities and resource material that the food service worker can use in cooperation with the teacher to promote an understanding of major nutrition concepts and concerns. It focuses on the concept that a school's food service program serves as an extension of the classroom. The classroom and the cafeteria teachings must reinforce each other in order for the students to accept the nutrition concept being stressed. A "Recommended Dietary Allowance" (RDA) table is included providing the specific nutrient recommendations developed for populations of various ages and both sexes. Dietary guidelines are given that provide a flexible framework for making food selections to meet the nutrients specified by the RDA. Classsroom activities for grades K-6 reinforce the objectives of nutrition instruction, and provide school food service personnel with methods that can be used in cooperation with the instructional and cafeteria staff. (JD)

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# NUTRITION COMES ALIVE

## *Food Service Worker Guide*

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*The State Education Department*
*Bureau of Health and Drug Education Services*
*Bureau of School Food Management and Nutrition*
*Albany, New York 12234*

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# NUTRITION COMES ALIVE

## *Food Service Worker Guide*

The University of the State of New York
The State Education Department
Bureau of Health and Drug Education Services
Bureau of School Food Management and Nutrition
Albany, New York 12234

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We thank the authors at Cornell University, who revised *NUTRITION COMES ALIVE* for the classroom teacher in 1985, and the authors at that University who published, in 1980, a nutrition education unit for the school food service worker. We also thank Nancy Goldblum and Marian Gueralnick, Suffolk County Cooperative Extension Agents, who correlated some of the activities school food service staff can use in conjunction with classroom teachers to promote nutrition education in the schools.

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# INTRODUCTION

Over 40 years ago, Congress realized the need to provide a nutritionally balanced meal to the nation's growing children by enacting the National School Lunch Program. Today, there is a growing concern that children in school must also obtain the knowledge and gain the ability to make wise and nutritious food choices that could prevent health problems later in life. This can be accomplished through a complete nutrition education program.

Nutrition education, as with all education programs, requires a multi-disciplinary process that transfers information, develops student motivation and modifies student eating habits where necessary. Another way of stating this is to note the relationship between knowledge and attitudes to promote behavior change--to use the classroom and cafeteria together, to promote a nutritional awareness in the student's eating habits. To help accomplish this goal, this unit of *NUTRITION COMES ALIVE IN THE CAFETERIA* has been developed for use by the school food service worker.

In order to assist the school food service worker in providing nutrition education to students, activities have been developed. These activities support the classroom nutrition objectives/understandings found in *NUTRITION COMES ALIVE* for grades K-6. (Figure 1) Materials are also presented that will engage the student in active learning.(Figure 2)

The activities are not to be taken as the sole contribution made by the food service worker to a students' education. Rather, they should be seen as the beginning of a viable, integrated component to a school's education curriculum--a means of extending the classroom into the cafeteria and the cafeteria into the classroom. The activities are meant to provide school food service personnel with methods that can be used in cooperation with the instructional and cafeteria staff.

The activities encourage flexibility and creativity in both the cafeteria and the classroom. They are not a prescription for teaching. Instead, activities are presented so that the food service worker may select and work with the classroom teacher in providing nutrition experiences to the student.

*Figure 1*

# NUTRITION COMES ALIVE

| Grade Level | CLASSROOM CURRICULUM<br>Objective/Understanding | CAFETERIA CURRICULUM |
|---|---|---|
| Kindergarten | Objective: Students will become familiar with and motivated to eat a variety of nutritious foods.<br><br>Understandings:<br>1. Food is something to eat. It has distinctive textures, shapes and smells.<br>2. There are many different kinds of nutritious foods.<br>3. Some foods are better than others for good health. | Objective: Students will become familiar with and motivated to eat a variety of nutritious foods.<br><br>Understandings:<br>1. Food is something to eat. It has distinctive textures, shapes and smells.<br>2. There are many different kinds of nutritious foods.<br>3. Some foods are better than others for good health.<br>4. Foods can appear in different forms. |
| Grade 1 | Objective: Students will appreciate the importance of nutritious foods to promote growth.<br><br>Understandings:<br>1. All living things need food for growth.<br>2. Plants and animals provide us with food.<br>3. Certain foods are especially important for children's growth. | Objective: Students will appreciate the importance of nutritious foods to promote growth.<br><br>Understandings:<br>1. All living things need food for growth.<br>2. Plants and animals provide us with food.<br>3. Certain foods are especially important for children's growth.<br>4. A variety of wholesome, healthful food is necessary every day. |
| Grade 2 | Objective: Students will recognize that choosing appropriate foods and being physically fit will benefit their health.<br><br>Understandings:<br>1. There are many foods that can be chosen for good snacks.<br>2. Some snack choices are more nutritious than other choices.<br>3. Exercising regularly contributes to physical fitness and good health. | Objective: Students will recognize that choosing appropriate foods and being physically fit will benefit their health.<br><br>Understandings:<br>1. There are many foods that can be chosen for good snacks.<br>2. Some snack choices are more nutritious than other choices.<br>3. Exercising regularly contributes to physical fitness and good health.<br>4. Some foods provide more nutrients than others. |
| Grade 3 | Objective: Students will understand that food choices are influenced by physical, cultural, and economic factors.<br><br>Understanding:<br>1. Sensory perceptions influence food choices.<br>2. Food choices take place within the context of immediate family, social and community groups.<br>3. Advertising, especially on television, influences food choices. | Objective: Students will understand that food choices are influenced by physical, cultural, and economic factors.<br><br>Understanding:<br>1. Sensory perceptions influence food choices.<br>2. Food choices take place within the context of immediate family, social and community groups.<br>3. Advertising, especially on television, influences food choices.<br>4. Students will accept new foods or food items that appear on the menu. |
| Grade 4 | Objective:Students will explore how to balance food intake and energy output for overall health and physical fitness.<br><br>Understandings:<br>1. Energy is needed for all life processes.<br>2. Three nutrients in food provide our bodies with energy for daily living activity.<br>3. Changes in eating patterns and exercise levels resulting from technological changes affect a person's ability to maintain energy balance. | Objective:Students will explore how to balance food intake and energy output for overall health and physical fitness.<br><br>Understandings:<br>1. Energy is needed for all life processes.<br>2. Three nutrients in food provide our bodies with energy for daily living activity.<br>3. Changes in eating patterns and exercise levels resulting from technological changes affect a person's ability to maintain energy balance.<br>4. School menus provide balanced nutrients for health. |
| Grade 5 | Objective: Students will be motivated to eat nutritious foods because they understand why the human body needs certain nutrients to function.<br><br>Understandings:<br>1. Human beings, like all living things, are composed of microscopic cells.<br>2. All cells need nutrients for energy, growth, maintenance, and repair, and these nutrients come from food.<br>3. As food is digested by the body, nutrients are released and carried by the blood to the waiting cells. | Objective: Students will be motivated to eat nutritious foods because they understand why the human body needs certain nutrients to function.<br><br>Understandings:<br>1. Human beings, like all living things, are composed of microscopic cells.<br>2. All cells need nutrients for energy, growth, maintenance, and repair, and these nutrients come from food.<br>3. As food is digested by the body, nutrients are released and carried by the blood to the waiting cells.<br>4.The nutrients foods provide are essential for the body. |
| Grade 6 | Objective: Students will become motivated to conserve food and food-related resources.<br><br>Understandings:<br>1. Food is wasted at home, in school, and throughout the community.<br>2. Much energy is required to produce, process, package, transport, and prepare food.<br>3. Sensible use of food and food-related resources can help protect our environment. | Objective: Students will become motivated to conserve food and food-related resources.<br><br>Understandings:<br>1. Food is wasted at home, in school, and throughout the community.<br>2. Much energy is required to produce, process, package, transport, and prepare food.<br>3. Sensible use of food and food-related resources can help protect our enviroment.<br>4. Foods can be tasted by students for better acceptance at lunch time. |

# WHY NUTRITION EDUCATION?

Nutrition education should be a component of an overall school program and part of the total educational experiences of our students. Nutrition education should combine the classroom and school cafeteria to provide experiences which will influence students' learning processes and enhance their quality of life. It is important to realize that nutrition education encompasses much more than just learning about good nutrition. Successful education occurs when behavior is changed. School food service programs must reinforce good eating habits and change poor eating habits.

We, as adults, know how important proper nutritional intake is. We have seen a reduction in severe nutrition related health problems in the United States, but childhood nutrition still remains a concern of many health proponents. Where we once witnessed children suffering from severe vitamin and mineral deficiency diseases, even starvation, we are now seeing the problems of obesity, nutrient (megavitamin) toxicity, and malnutrition--all of which may be the result of poor eating habits. Without nutrition education, these conditions will continue to exist and affect our children's mental, physical, and emotional development.

The young consumers we are seeing today need to know how to select and purchase foods for nutritional well-being not only in our school cafeterias, but also at the supermarkets, fast food restaurants, and through vending machines. They must also learn how to question the validity of the dietary advice they are receiving from a variety of sources, which may or may not be reliable. They must learn to discriminate between advertising claims that appear in popular books, newspapers, and magazines.

The New York State Education Department has developed *NUTRITION COMES ALIVE* materials to supplement the New York State nutrition education curriculum. These classroom materials were designed to develop the thinking skills of students and provide the classroom teacher with activities that allow the students to search out nutritional information.

*NUTRITION COMES ALIVE IN THE CAFETERIA* provides nutrition activities and resource material that the food service worker can use in cooperation with the teacher to promote an understanding of major nutrition concepts and concerns. It focuses on the concept that a school's food service program serves as an extension of the classroom. For example, if a student is learning in the classroom that an increase in fiber in his/her diet is important, school meals should reinforce this learning by serving whole wheat breads and brown rice in the menu offerings. The classroom and the cafeteria teachings must reinforce each other in order for the students to accept the nutrition concept being stressed.

The relationship between nutrition, diet, and health has received much attention lately. Many people in the field of nutrition science are encouraging food selection of those foods that will provide the greatest source of nutrients for maintaining and improving health. Three different nutrient guidelines have been published and often referred to as standards for good health. These guidelines are called the *Recommended Dietary Allowance (RDA)*, the *Dietary Guidelines*, and the *Index of Nutrient Quality (INQ)*. They are based on nutrient recommendations for specific groups of people.

The nutrient guide designed to provide and maintain good nutrition in healthy people is called the *Recommended Dietary Allowance* (RDA). This guide, developed by the National Academy of Sciences, provides the specific nutrient recommendations developed for groups of healthy individuals of various age and sex populations. Reference to the RDA is found on many food product labeling.

*Dietary Guidelines*, on the other hand, are issued by the United States Department of Agriculture (USDA) and provide a flexible framework for making food selections to meet the nutrients specified by the RDA. This guide combines foods into groups according to the nutrient contribution they make to the body. By using these guidelines, recommendations can be made to provide a more healthy diet in the simplest terms. (Figure 3) They are for healthy people and do not apply to those who are on special diets because of diseases or conditions that alter the normal nutrient requirement.

A more complicated method of food selection, developed by the Utah State University, is based on nutrient density. This method, called the *Index of Nutrient Quality* (INQ), provides a ratio between the nutrients contained in foods to the energy (calories) they provide. It enables one to select foods of the greatest nutritional value at the specific calorie level he/she may need. When calories need to be restricted, the concept of nutrient density becomes more important to ensure that adequate nutrition is obtained.

While no guidelines guarantee health and well-being, they all encourage good eating habits based on variety and moderation in foods to maintain or improve health for a more satisfying life.

This document stress the *Dietary Guidelines* approach in making good food choices for children in the cafeteria. These guidelines, while they promote the four (4) food groups theory, add a fifth food group we call "fats, sugars and alcohol." This group contains foods with a high content of salt, sugar, fat, and alcohol. People often refer to this class as "junk" food. However, because the foods do contain nutrients, they should not be branded as "avoidance" foods by healthy individuals. To completely restrict those foods could indicate that a health condition such as diabetes, hypertension, or high cholesterol exists. Instead, by stressing that these foods be used in moderation, we create an awareness to the use of sugar, candy, highly salted, and fried foods in the diet.

*Figure 2*

# NUTRITION COMES ALIVE

## CAFETERIA CURRICULUM

| Grade Level | Objective/Understanding | Activities to meet these objectives |
|---|---|---|
| Kindergarten | Objective: Students will become familiar with and motivated to eat a variety of nutritious foods.<br><br>Understandings:<br>1. Food is something to eat. It has distinctive textures, shapes and smells.<br>2. There are many different kinds of nutritious foods.<br>3. Some foods are better than others for good health.<br>4. Foods can appear in different forms. | Activity 2 |
| Grade 1 | Objective: Students will appreciate the importance of nutritious foods to promote growth.<br><br>Understandings:<br>1. All living things need food for growth.<br>2. Plants and animals provide us with food.<br>3. Certain foods are especially important for children's growth.<br>4. A variety of wholesome, healthful food is necessary every day. | Activity 1<br>Activity 3 |
| Grade 2 | Objective: Students will recognize that choosing appropriate foods and being physically fit will benefit their health.<br><br>Understandings:<br>1. There are many foods that can be chosen for good snacks.<br>2. Some snack choices are more nutritious than other choices.<br>3. Exercising regularly contributes to physical fitness and good health.<br>4. Some foods provide more nutrients than others. | Activity 4<br>Activity 5<br>Activity 7 |
| Grade 3 | Objective: Students will understand that food choices are influenced by physical, cultural, and economic factors.<br><br>Understanding:<br>1. Sensory perceptions influence food choices.<br>2. Food choices take place within the context of immediate family, social and community groups.<br>3. Advertising, especially on television, influences food choices.<br>4. Students will accept new foods or food items that appear on the menu. | Activity 2<br>Activity 6 |
| Grade 4 | Objective:Students will explore how to balance food intake and energy output for overall health and physical fitness.<br><br>Understandings:<br>1. Energy is needed for all life processes.<br>2. Three nutrients in food provide our bodies with energy for daily living activity.<br>3. Changes in eating patterns and exercise levels resulting from technological changes affect a person's ability to maintain energy balance.<br>4. School menus provide balanced nutrients for health. | Activity 1 |
| Grade 5 | Objective: Students will be motivated to eat nutritious foods because they understand why the human body needs certain nutrients to function.<br><br>Understandings:<br>1. Human beings, like all living things, are composed of microscopic cells.<br>2. All cells need nutrients for energy, growth, maintenance, and repair, and these nutrients come from food.<br>3. As food is digested by the body, nutrients are released and carried by the blood to the waiting cells.<br>4.The nutrients foods provide are essential for the body. | Activity 1 |
| Grade 6 | Objective: Students will become motivated to conserve food and food-related resources.<br><br>Understandings:<br>1. Food is wasted at home, in school, and throughout the community.<br>2. Much energy is required to produce, process, package, transport, and prepare food.<br>3. Sensible use of food and food-related resources can help protect our enviroment.<br>4. Foods can be tasted by students for better acceptance at lunch time. | Activity 1<br>Activity 2<br>Activity 6 |

*Figure 3*

## DIETARY GUIDELINES

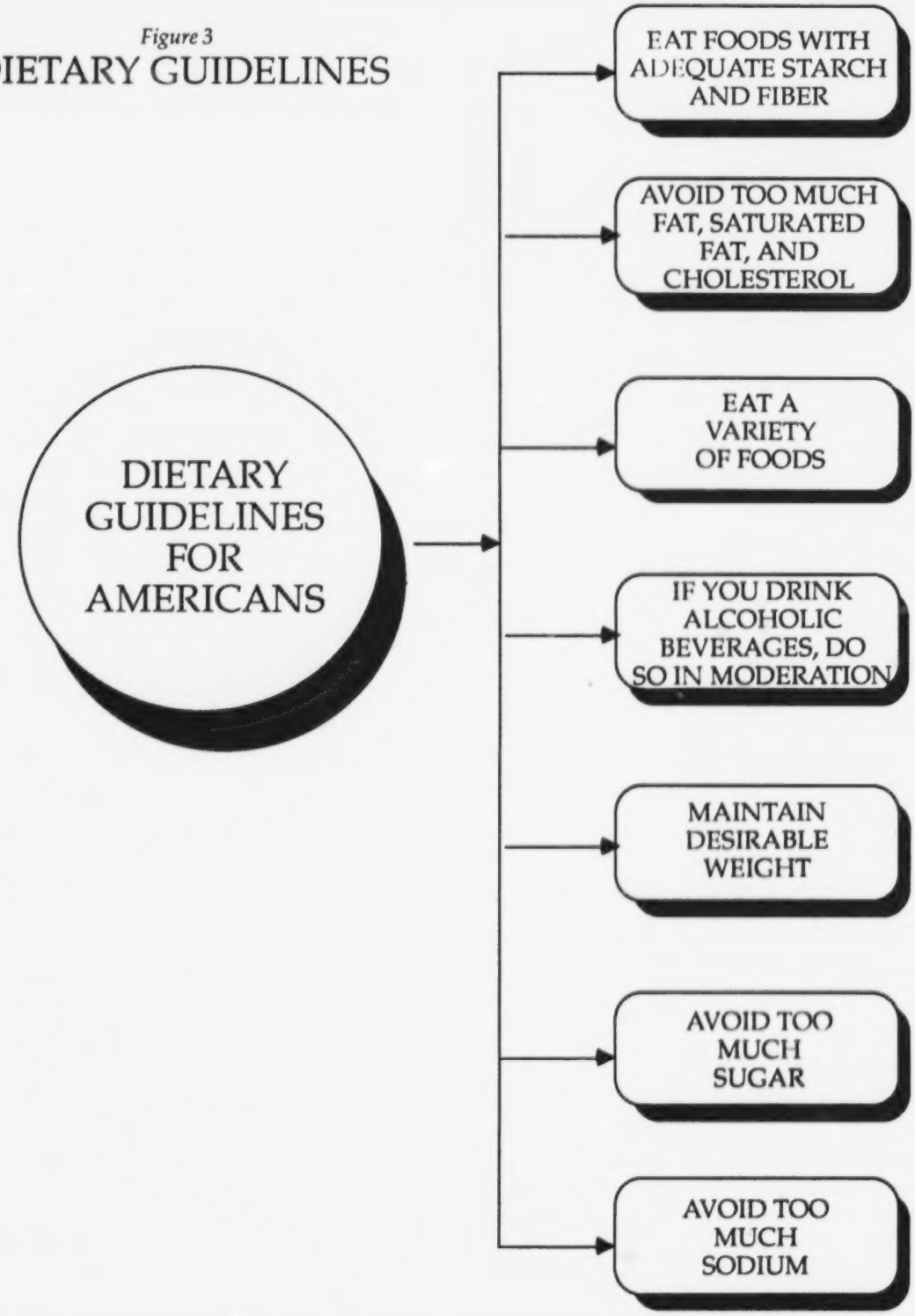

DIETARY GUIDELINES FOR AMERICANS
EAT FOODS WITH ADEQUATE STARCH AND FIBER
AVOID TOO MUCH FAT, SATURATED FAT, AND CHOLESTEROL
EAT A VARIETY OF FOODS
IF YOU DRINK ALCOHOLIC BEVERAGES, DO SO IN MODERATION
MAINTAIN DESIRABLE WEIGHT
AVOID TOO MUCH SUGAR
AVOID TOO MUCH SODIUM

*Figure 4*

# THE FIVE FOOD GROUPS

| Vegetable and Fruit | Breads and Cereals | Milk and Cheeses | Meats, Fish, Poultry, and Beans | Fats, Sweets, and Alcohol |
|---|---|---|---|---|
| **Foods in this group include:** | | | | |
| All vegetables and fruits, (fresh, canned, frozen, or dried) and their juices | All foods based on whole grains or enriched flour or meal. Includes breads, biscuits, muffins, waffles, pancakes, pasta, rice, barley, bulgur, and cereals. | All types of milk, yogurt, cheese, ice milk, ice cream, and foods prepared with milk (milk shakes, puddings, and creamed soups) | Beef, veal, lamb, pork, poultry, fish, shellfish, variety meats, dry beans or peas, soybeans, lentils, eggs, peanut butter, and seeds | All fats and oils, mayonnaise and salad dressings; all concentrated sweets; highly sugared beverages; alcoholic beverages; unenriched, refined flour products. |
| **Number of suggested servings daily:** | | | | |
| Everyone - 4 servings. (For vitamin C, use citrus fruits, melons, berries, tomatoes, or dark green vegetables daily. For vitamin A, use dark green or deep yellow vegetables.) | Everyone - 4 servings. (For fiber, include some whole grain bread or cereal every day.) | Children, under 9 - 2 to 3 servings.<br>Children, 9-12 - 3 servings.<br>Teens - 4 servings.<br>Adults - 2 servings.<br>Pregnant woman - 3 servings.<br>Nursing mothers - 4 servings. | Everyone - 2 servings. | No serving number is recommended. In moderation, these foods can be used to round out meals, as long as requirements from the other categories are satisfied. |
| **A serving consists of:** | | | | |
| 1/2 cup or a typical portion such as 1 medium grapefruit, 1 medium potato, or 1 wedge of lettuce. | 1 slice bread;<br>1 biscuit or muffin;<br>1 pancake or waffle;<br>1/2 to 3/4 cup cooked pasta, rice, bulgur, or cereal;<br>or 1 ounce ready-to-eat cereal. | 1 cup milk or yogurt,<br>2 cups cottage cheese,<br>1 1/3 ounces cheese,<br>2 ounces process cheese food or spread,<br>1/4 cup Parmesan cheese,<br>or 1 1/2 cups ice cream. | 2 to 3 ounces lean cooked meat, poultry, or fish;<br>1 to 1/2 cups cooked dry beans, peas, or lentils;<br>2 eggs;<br>1/2 to 1 cup nuts or seeds;<br>or 1/4 cup peanut butter. | No specific serving size recommended. |
| **Major nutrients supplied:** | | | | |
| Carbohydrates, fiber, and vitamins A and C. Dark green vegetables are good sources of riboflavin, folacin, iron, and magnesium. Certain greens are added for calcium. | Carbohydrates, protein, B vitamins and iron. Whole grain products provide magnesium, folacin, and fiber. | Protein, calcium, riboflavin, and vitamins A, B6, and B12. When fortified, these products also provide vitamin D. | Protein, phosphorus, and vitamin B6. Foods of animal origin provide vitamin B12. Meats, dry beans, and dry peas provide iron. Liver and egg yolks provide vitamin A. Dry beans, peas, and nuts provide magnesium. | These foods provide very few nutrients in proportion to the number of calories they contain. Vegetable oils provide vitamin E and essential fatty acids. |

# DIETARY GUIDELINES FOR HEALTHY EATING

## EAT ANYTIME

| Vegetable and Fruit | Breads and Cereals | Milk and Cheeses | Meats, Fish, Poultry, and Beans | Fats, Sweets, and Alcohol |
|---|---|---|---|---|
| All fruits and vegetables except those listed below; applesauce (unsweetened); unsalted vegetable juices; unsalted fruit juices; potatoes, white or sweet. | Bread and rolls (whole grain); bulgur; dried beans and peas (legumes); lentils; oatmeal; whole wheat, rye bread; brown rice; whole wheat matzoh; whole wheat pasta; whole wheat hot and cold cereals. | Buttermilk made from skim milk; lassi (low-fat yogurt and fruit juice drink); low-fat cottage cheese, non-fat dry milk; low-fat milk; 1% milkfat, low-fat yogurt, skim milk cheeses; skim milk, skim milk and banana shake. | FISH: cod, flounder, gefilte fish, haddock, halibut, perch, pollock, rockfish, shellfish (except shrimp), sole, tuna, water packed.<br>EGG PRODUCTS: egg whites only.<br>POULTRY: chicken or turkey boiled, baked or roasted (no skin). | Fruit, plain popcorn, raw vegetables. |

## EAT IN MODERATION

| Vegetable and Fruit | Breads and Cereals | Milk and Cheeses | Meats, Fish, Poultry, and Beans | Fats, Sweets, and Alcohol |
|---|---|---|---|---|
| Avocado; cole slaw; guacomole; cranberry sauce (canned); dried fruit; glazed carrots; french fries, homemade in vegetable oil, commerical; eggplant fried in vegetable oil; fruits canned in syrup; vegetables canned. | Cornbread; flour tortilla; nuts; granola cereals; hominy grits; macaroni and cheese; matzoh; pasta (except whole wheat); peanut butter; pizza; seeds; refined, unsweetened cereals; refried beans, commercial, or homemade in oil; white rice; waffles or pancakes with syrup; white bread and rolls; tofu, soybeans. | Cocoa made with skimmed milk; cottage cheese, regular, 4% milkfat frozen lowfat yogurt, iced milk low-fat milk, 2% milkfat, low-fat yogurt, sweetened, mozzarella cheese, part-skim type, only. | FISH (drained well, if canned): fried fish, herring; sardines, mackerel, canned; shrimp; salmon, pink, canned; tuna, oil-packed.<br>POULTRY: chicken liver, baked or broiled (just one); fried chicken, homemade in vegetable oil, chicken or turkey, boiled, baked, or roasted (with skin).<br>RED MEAT: (trimmed of all outside fat) flank steak; leg or loin of lamb, veal, pork; shoulder or loin, lean, round steak or ground round, rump roast; sirloin steak, lean. | Mayonnaise, margine, vegetable oils, except coconut and palm oils. |

## EAT NOW AND THEN

| Vegetable and Fruit | Breads and Cereals | Milk and Cheeses | Meats, Fish, Poultry, and Beans | Fats, Sweets, and Alcohol |
|---|---|---|---|---|
| Coconut, pickles. | Croissant, sticky buns, doughnut (yeast-leavened) presweetened breakfast cereals; stuffing (made with butter). | Cheesecake, cheese fondue, eggnog; cheese souffle; ice cream, whole milk; hard cheese bleu, brick, camembert, cheddar, muenster, swiss, processed cheeses; whole milk yogurt. | POULTRY: fried chicken, commercially prepared.<br>EGG: cheese omelet; egg yolk or whole egg (about 3/week).<br>RED MEATS: bacon; bologna, hot dogs; beef liver, fried; corned beef; salami; ground beef; ham, trimmed well; liverwurst, sausage, untrimmed red meats. | Occasional sweets; butter; sour cream; cream cheese; lards; commercially prepared baked goods; saturated fats; soda pop; imitation fruit drinks; potato chips. |

3

Through the *Dietary Guidelines*, the United States Department of Agriculture (USDA) has recommended changes in both food selection and preparation for better nutrition and health. Successful food selection involves achieving the balance and adequacy of proper nutrients for the body, at an appropriate calorie level and variety to assure the best possible diet through satisfying meals. Current recommendations call for increasing our consumption of "complex carbohydrates"; decreasing our fat consumption; limiting our intake of salt, sugar, and alcohol; eating a variety of food; and, maintaining an ideal weight.

- Complex carbohydrates are starchy or fibrous foods such as potatoes, pasta, whole-grain breads and cereals, fresh fruits and vegetables, and dried peas and legumes. They differ from "simple carbohydrate" foods like table sugar or honey in an important way. Complex carbohydrates supply nutrients and calories, whereas simple carbohydrates provide only calories.

  Complex carbohydrates are not fattening. It's the butter, gravy, and sauces that we put on the carbohydrate foods that boost the calories!

- Removing the salt shaker from the table is recommended since high salt intake may lead to the development of high blood pressure (hypertension) in some people. Salt is made up of sodium and chloride. It is suggested that you flavor foods, raw or cooked, with other spices. Look out for foods like pickles, bouillon, canned vegetables, and canned soups. They are especially high in salt or sodium which may have been added for flavor or as a preservative. Sodium creeps into our diets in all sorts of ways. For example, soy sauce, celery, milk and milk products, egg, fish, carrots, baking powder, baking soda, and certain over-the-counter drugs all are sources of sodium.

- Other recommendations tackle the problem of obesity which has become prevalent in the U.S. Nearly one out of three Americans is overweight! This excess weight can be hazardous to health. Overweight people are more likely to develop diabetes, hypertension, heart and other diseases. Losing weight means eating fewer calories and increasing activity. You can cut calories by eating smaller portions, passing up sweet desserts, eliminating high-calorie snacks, and avoiding excess fat in the diet. Take a daily walk or participate in a sport to increase activity. Each individual must strike a balance between calories eaten and calories burned to help keep body weight under control.

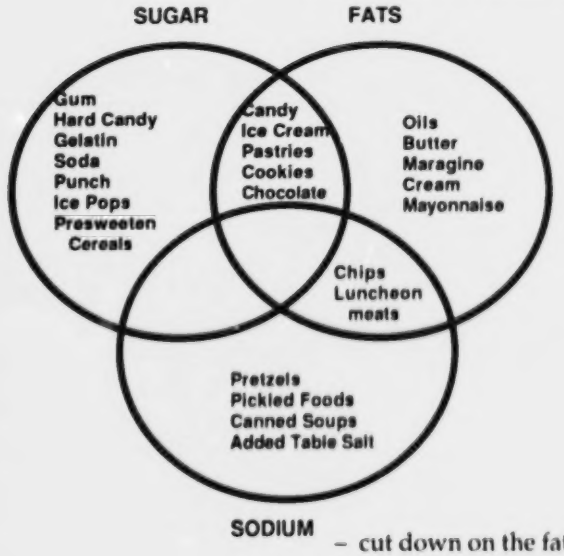
Do these recommendations sound overwhelming? They don't have to be! Benefits will start with small, gradual changes. Every little change can mean a lot in the long term when it comes to good nutrition and health!

# CURRENT ISSUES IN NUTRITION

## *School Lunch*

School lunches that will be accepted by students, can be prepared following the dietary guidelines. We can increase the nutritional benefit of meals we serve the students.

First, make the students aware of health problems associated with poor nutritional habits. Since most students think in the "now" time frame, these problems should be related to "now". Students will not be that interested in what health problems their current nutrition habits may produce in later years. Students are concerned with energy, weight, and personal appearance such as healthy skin and hair. These are some of the areas where the effects of poor nutrition can be addresed.




- cut down on the salt content of meals:
  - serve less prepared luncheon meats that have a high salt or nitrate content such as bologna or salami
  - gradually use herbs to season vegetables and cut down on the amount of salt added to cook foods
  - purchase vegetables fresh, frozen, or packed in natural juices rather than salted water

- cut down on the sugar content of meals:
  - serve desserts that have less sugar such as cake topped with fruit instead of icing
  - purchase fruits packed in natural juices or light syrup instead of heavy syrup
  - serve cereals that are not sugar coated or those to which sugar has not been added

- cut down on the fat content of meals:
  - serve more fish, turkey, chicken, or lean meat that is baked or broiled instead of high fat beef
  - whenever its necessary to use fats, use vegetable fats instead of fats from animal sources
  - cut down on the use of cheese on the menu or use skim milk cheese
  - use natural juices for gravy instead of purchasing thick gravy sauces
- increase the amount of fiber in meals:
  - establish a salad bar or include salads on the menu every day
  - add fresh fruits or raw vegetables on the menu daily
  - increase the use of whole grain breads instead of those made with white flour.

All of these are positive steps that can be taken to ensure that school lunch is the "best" meal of the day and serves as a model for a nutritional well-being.

## *Sugar*

Sugars are natural components of some foods. Fruits and some vegetables contain sugars, along with important vitamins, minerals, and fiber. Unlike fruits and vegetables, however, many food products contain large amounts of added sugar (sucrose, dextrose, honey, fructose) and contribute little more than kilocalories. When these "empty-calorie" foods and beverages replace more nutritious choices, getting enough nutrients without too many calories may be a problem. Even the increasing use of artificial sweeteners does not solve the problem of soft drinks replacing a more nutritious choice such as milk. Foods such as sugared milk products, ice cream, custards, and puddings can be considered "good" in moderation because they contain protein and calcium. But eating too many sugary products may contribute to obesity and is a major factor in tooth decay.

## *Dental Health*

Not only are dental problems widespread in the United States, but professional dental care is expensive. Therefore, it is important to begin good diet and health habits early in life.

Sugar (sucrose) is the preferred food for cavity-causing oral bacteria. When sugar is available, the bacteria "eat" it, forming an acid which adheres to the enamel of the teeth. The acid weakens the tooth structure and promotes tooth decay. More critical than the amount of sugar ingested at any one time are the frequency and duration that sugar is available to oral bacteria.

Sugary snacks are of particular concern because they increase the frequency of sugar exposure and may also increase the duration of exposure. For example, soft drinks that are sipped and sticky candies that adhere to the tooth surface keep sugar available to oral bacteria for extended periods of time, especially if they are eaten as snacks. When sweets are eaten with meals, other foods tend to buffer the acid formed and also assist in removing sugar from the teeth.

## *Fats*

Fats provide kilocalories and essential fatty acids. But only a small amount of dietary fat supplies all the essential fatty acids. A recent concern is that Americans derive too many of their daily kilocalories from fat. Not only may this high fat consumption lead to obesity, but one class of fats may be an important factor in heart disease.

Fats are classified into two types, saturated (those fats found mainly in animal products) and unsaturated. Unsaturated fats are those fats whose source is mainly found in plant products such as safflower, sunflower, corn or soybean oils. Coconut and palm oils contain higher amounts of saturated fats.

It has been suggested that people decrease the amount of saturated fat they eat. Cholesterol, a substance found in animal (saturated) fat, has been implicated in heart disease.

## *Sodium*

Hypertension or high blood pressure can be a nutrition-related health problem. Large intakes of sodium, mostly in the form of common table salt, are implicated in causing high blood pressure in susceptible persons. Lowering sodium intake and achieving reasonable weight help control hypertension.

Many advertised snack foods are very high in sodium. Potato chips, salted pretzels, and some crackers are examples of high sodium foods. It is encouraging that new low sodium forms of these favorite snacks are now on the market. Canned vegetables without added salt and low salt cheeses are also now available. Cutting down on sodium is one way to build better food patterns for the future.

## *Iron-Deficiency Anemia*

A recent survey found that 61 percent of children in the United States were receiving less than the recommended dietary allowance for iron. A continual low iron intake increases children's risk of developing iron-deficiency anemia.

Anemia is caused by a lack of dietary iron needed to form hemoglobin, a compound in the blood that carries oxygen to the cells. Symptoms of anemia include fatigue, weakness, irritability, and pallor.

Meat, poultry, dried beans, and dark green vegetables can help meet the iron requirement. In addition, unsweetened fortified cereals, whole grain and enriched breads, and dried fruits are iron-rich foods that make appealing snacks. Since vitamin C increases the absorption of iron, citrus fruits and juices are good companions to high-iron meals and snacks.

## *Calcium Concern*

Bone health is a key concern of both youth and adults. Interest has always focused on supplying necessary calcium and vitamin D for the formation of bone in growing infants and children. Increasing concern about osteoporosis has caused us to search out information about maintaining bone health during our mature years.

Our bones are in a state of constant flux, serving as banks in which calcium can be deposited and withdrawn. Although 99 percent of the body's calcium is in the bone, the other 1 percent circulates in the blood and is vitally important for normal nerve transmission, muscle contraction, heart function, and blood clotting. When this small but critical amount falls below a certain concentration, the bones release some of their calcium.

Low intake of calcium-rich foods during the adult years compromises bone health. Adults need calcium just as much as growing children do. Prolonged deficiency of calcium through the adult years may increase the risk of osteoporosis, a disease seen particularly in postmenopausal women and characterized by weak and fragile bones.

Since bone mass reaches its maximum when a person is about the age of 35 and declines as part of the aging process thereafter, people of all ages need to be aware of their intake of milk and other sources of calcium such as leafy green vegetables, broccoli, and fish with edible bones such as sardines, canned salmon, and fresh smelt.

Because calcium is important throughout life, students should establish habits of calcium consumption that they will follow throughout their lives.

## *Fiber*

The fiber found in our diets is not just one compound but a complex grouping of many substances found in cell walls of plants. These include cellulose, hemicellulose, and pectin as well as lignin, which is not a carbohydrate. In simple terms, dietary fiber refers to components of plant cells that the body does not digest and absorb.

Most nutritionists agree that dietary fiber is important, but many of the benefits that have been claimed have not been proved. At the present time, the most clearly established benefit of dietary fiber is that it helps to relieve or prevent constipation. There is some evidence that it is beneficial in preventing or treating diverticular disease. It has also been suggested that fiber may reduce the risk of cancer of the colon and heart disease and help control diabetes and obesity.

Although fiber is important in the diet, a lot is not necessarily better. Large doses of purified fibers may increase the excretion of some minerals, but it is unlikely that a mineral deficiency will develop if moderate amounts of fiber are eaten as part of a normal diet.

The best advice is to increase dietary fiber by eating more fresh fruits and vegetables, whole-grain bread and cereal products, beans, and nuts. With this approach you are not likely to consume excess fiber and you will get a variety of types of fiber, each of which might have a different benefit. In addition, these foods supply vitamins and minerals.

## *Energy Balance*

Kilocalories (energy) are needed to support life and growth. Eating too few kilocalories can result in poor health and, in children, can limit growth. On the other hand, eating more kilocalories than required can also result in poor health. Overweight, and especially obesity, can increase the risk of developing many health problems. The amount of kilocalories that a person needs for health depends on the amount of energy that he or she uses for basic body processes and for physical activity.

Carbohydrates, proteins, fats, and alcohol are the food components that give us kilocalories. Carbohydrates, proteins, and fats are essential nutrients; alcohol is not. But there are other essential nutrients that we must eat to be healthy: minerals, vitamins, and water. Although these nutrients do not supply kilocalories, they can be found in many foods that do. Each class of nutrients is important for a variety of body functions. Therefore, the foods in our daily diet must be carefully selected to supply all the essential nutrients without exceeding our kilocalorie requirements.

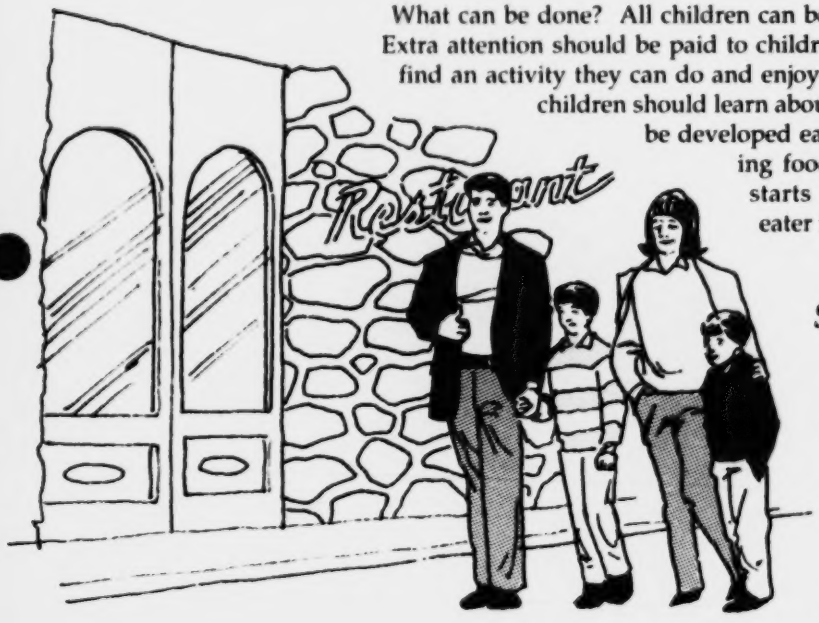
> energy = kilocalories
>
> kilocalories = calories

What is a kilocalorie? The energy value of a food is expressed as a unit of heat, a kilocalorie. This term is more correct than calorie, which is often used instead.

A kilocalorie (kcal) represents the amount of heat required to raise the temperature of one kilogram of water one degree Centigrade. Another way to think of this amount of energy or heat is to realize that one large apple, which contains about 100 kcal, provides enough heat to raise the temperature of slightly over four cups of water from 0 degrees C (freezing) to 100 degrees C (boiling). Four and a half cups of shredded cabbage or one tablespoon of peanut butter have a similar energy potential.

## *Obesity*

Obesity is a major health problem in the United States today, for both adults and children. Why is excessive weight a health concern? In adults, the prevalence of diabetes, hypertension (high blood pressure), and atherosclerosis (heart disease) increases with obesity. The concern for children is that obesity will persist into adulthood and result in health problems. Overweight or obese children also may be troubled by emotional and social problems.



What can be done? All children can be encouraged to be very active all year round. Extra attention should be paid to children with weight problems, to be sure that they find an activity they can do and enjoy--and that they continue to do it. Parents and children should learn about the problems of overeating. Good habits can be developed early. Many families are concerned about wasting food at the dinner table. Food waste, however, starts in purchasing and its preparation. A good eater is a moderate eater, not a big eater.

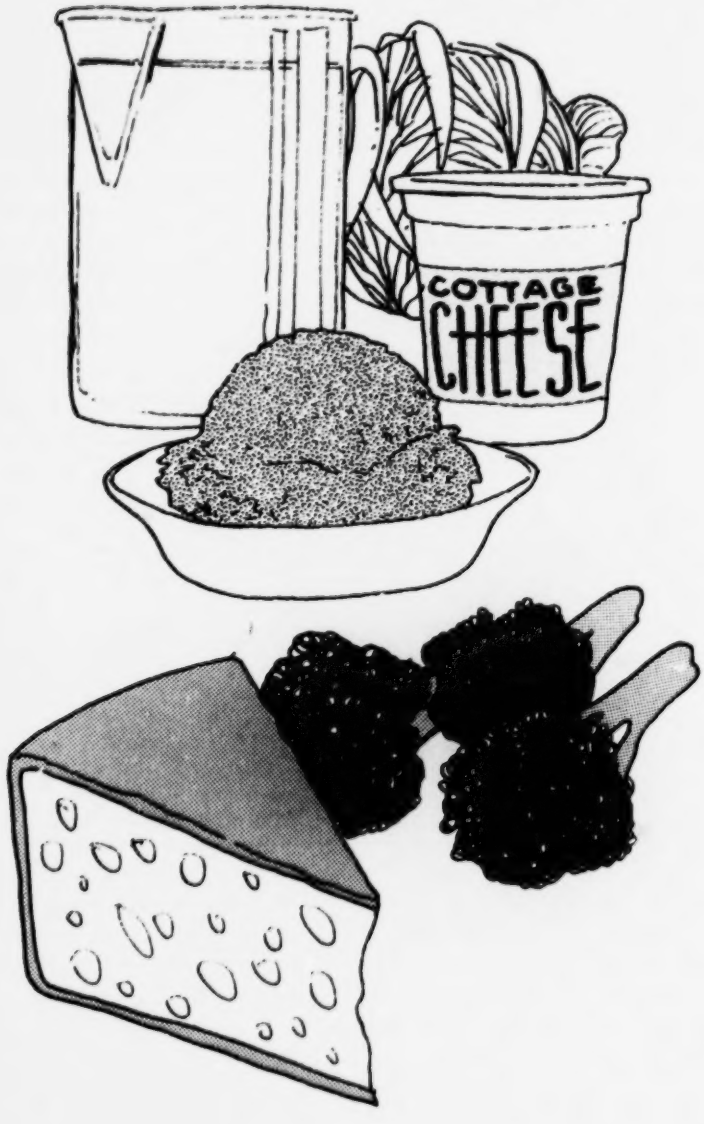
## *Snacks - A Nutrition Plus or Minus*

Many people tend to think of between-meal snacks as "junk" food or "empty-calorie" food, but it is not necessarily true. The problem is that candies, soft drinks, cookies, and potato chips that are often eaten exclusively for snacks in place of nutritious foods. These foods offer few nutrients but are loaded with excessive calories. By learning to choose snacks carefully, children can avoid overly sweet or salty and high-fat snacks in favor of more nutritious fruits, vegetables, grain products, and milk. Nutritious snacks actually improve the nutritional quality of children's diets.

## *Children and Food Advertisements*

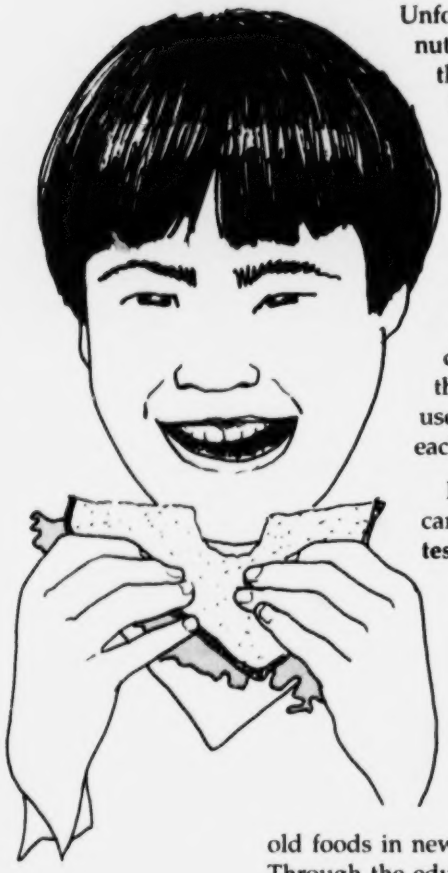
Every day we are bombarded by food ads through newspapers, magazines, direct-mail ads, radio, and, of course, television. Children watch an average of 27.5 hours of television per week and more than 20,000 commercials per year. It has been estimated

that 60 percent of all commercials aimed at children are for food, and unfortunately, the majority are nonnutritious foods and food products. With this exposure, the food ads undoubtedly have a tremendous impact on the way children think about food. It is not a simple problem to deal with, but through guidance from parents and teachers, children can learn to question what they see on television and become aware of the selling intent of ads. Repeated positive experiences with nutritious foods can help children learn to desire and choose healthy foods.



# EDUCATION METHODS FOR FOOD SERVICE

This section identifies the contribution food service workers can make to enhance the overall education program in a school. Nutrition education, combined with a school food service program can improve the eating habits and the physical and mental health of the nation's future citizens. By providing students with nutrition information in practical situations, thinking skills begin to force the students to assume an increase in personal responsibility for their food choices. Food service workers can provide teachers with experiences and resources. These will enable children to sort out the choices available, identify various nutritional options, and face this complex world of eating in an intelligent way.



Unfortunately, even when students are taught how, why, and what foods are nutritionally beneficial, they don't always have these options available to them when they make their food choices. What better environment for learning exists in the students' daily schedule than the Child Nutrition Programs which provide the students with nutritiously balanced meals.

You, as a school food service employee, can work with administrators, teachers, parents, and students to implement *NUTRITION COMES ALIVE* as part of your school's curriculum. You can volunteer your services and the use of the school's cafeteria facilities in cooperation with classroom activities to provide a sound basis in nutrition education. Students will not only benefit from their learning experiences in the classroom, but they will also have a means to put this knowledge to use in the lunchroom where nutritious food choices are available to them each day.

Five (5) education techniques where food service workers and teachers can assist the student to learn through a cooperative experience are: **taste testing, demonstrating, displaying, contests,** and **advertising**. Activities can be, jointly, developed to use in the classroom and in the cafeteria, alone or in combination with other educational activities that can provide a nutrition experience for students.

## *Taste Testing*

Taste testing should always be an exciting adventure for students. Through taste testing, students can be introduced to new foods, taste old foods in new forms, and/or taste new methods of food preparation or production. Through the educational benefits of food tasting, we can help the student develop attitudes toward food selection that will enhance the nutrition options of food choices.

Taste testing can be done in many ways. One way is by gathering and evaluating opinions of foods from small groups of students. These small groups could be a selected or elected panel representing the entire school or a selected class. It can also be done through the opinions of a large group of students. This group could taste food from "tasting tables" in the cafeteria; by placing small quantities of the food item on the menu as a free choice sample; or by distributing a sample of the new item at a school event.

Excitement for the taste testing is generated through imaginative and advanced planning of the coming event. This can be done through an article appearing in the school newspaper, by distributing newsletters, through an announcement over the PA system, by placing flyers and/or posters through out the school, by initiating contests to name the new food item, etc.

Evaluation of the food item can be done many ways. It can be done informally by recording and reviewing notes of the students' comments regarding the food item. It can be done by determining the amount of plate waste or the amount of the food item not accepted by the students. Ballot boxes in the cafeteria is another way student opinion can be obtained. A formal evaluation can be made by having the "taste testing panelists" complete individual evaluation forms and analyzing the results.

In evaluating any new food item through taste testing, it is important to remember that the presentation of the food item is as important as the food item itself. If the item is not attractively presented, it will not be accepted by the student, regardless of its taste, and, can in fact, leave a negative impression on the student about the food item for many years.

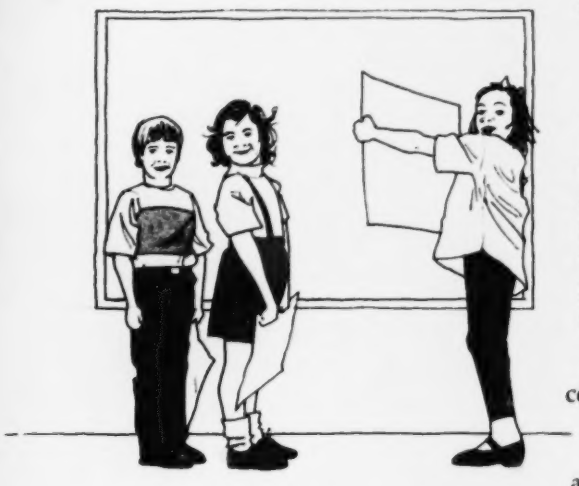
## *Demonstration*

A demonstration is a show that explains an idea. It has a theme or plot, and may use actors/actresses or props. Since demonstrations appeal to all students, they can have a positive impact on the target audience. Generally, they will provide an easy recall of the idea you are promoting.

To plan a demonstration, you first must define the idea. It is more effective to demonstrate one idea at a time. The idea should be represented simply, concisely, and in a manner that the audience can identify with. In planning the demonstration the audience to be reached and the physical properties of the site where the demonstration will be held should be considered. Time is also a consideration for the demonstration. Frequently, demonstrations are performed in front of the room. Performing the demonstration in the center of the room may enhance the effectiveness of the demonstration. A demonstration, like a show, should have those characteristics that attract and hold the attention of the audience. It must be dramatic, colorful, lively, sincere, meaningful, timely, credible and performed intelligently. Keep in mind an effective demonstration involves the audience.

## *Display*

A display is a visual form of communications. It exhibits an idea. Because it's visual, it can communicate to a large and varied audience. Thus, it is one of the most widely used forms of communications.



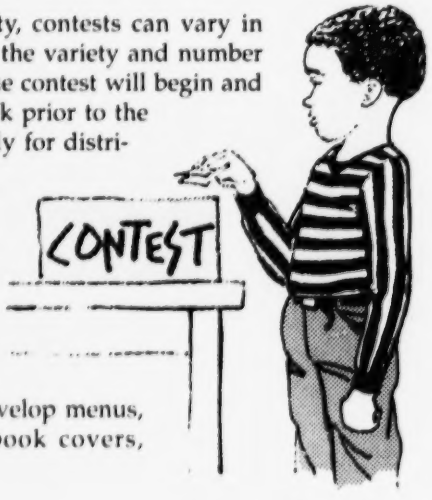
To plan a display, you must first select an idea, theme or topic you wish to promote. Only one promotion should be done at a time. If you are promoting the use of whole wheat in the diet, concentrate your display on the sources and products of whole wheat. Do not try to combine a display of whole wheat with calcium. Too many ideas present confused and weakened messages. Design your display according to the physical characteristics and traffic flow of the display area. You want your display to be a focal point of the area--not too large, not too small. You also want it placed at or above eye level, in an area where most students can see it.

After the theme has been selected and the physical area chosen, gather, construct and prepare the visuals for your display. Ask others for help and use their assistance for ideas and vision--remember **"two heads are better than one!"** Constantly reconsider your ideas and visual aid selection to provide an eye catching display.

After the display has been constructed, draw a diagram of it, make notes on its effectiveness and changes that would enhance it. This will serve as a reference for future displays.

## *Contests*

Contests can be a means to involve the students in the school lunch program while promoting a nutrition education message. While students are highly motivated to participate in the contest because of the prizes being offered, more nutrition information may be retained because of their personal involvement.




Depending on your activities and capability, contests can vary in degree of difficulty, participants involved, and the variety and number of prizes awarded. Determine on which day the contest will begin and the day the contest will end. At least one week prior to the start of the contest, entry forms should be ready for distribution. Prepare notices to announce the contest. This notice should include who is eligible, what has to be done to enter the contest, rules of the contest, prepared contest prize list, who the judges will be, factor(s) the judging will depend on, dates when the judging will take place, and the prizes awarded. Be sure to note what will happen in case of a "tie". Contests may be used to develop menus, posters, riddles, worksheets, placemats, book covers, mobiles, lotteries, etc.

## *Advertising*

Advertising is a means to make the public aware of your product and to promote the need for your product in their lives. Advertisement can be used to generate participation in your Child Nutrition Program or it can teach the students and public about good nutritional habits.

Advertising can be accomplished in many ways, including the following: using the school's public address system, local radio or television stations, school and/or local newspaper, menus, placemats, mobiles, table tents, and posters.

Advertisements made over the school's public address system can promote a nutrition education event in the cafeteria or classroom event or a special food item that will appear on the menu. It can be used to reinforce articles in the school and local newspapers. Creative advertising can also be used to promote ideas and activities when placed on the back of menus or on placemats that are distributed to all students in the school. Mobiles also draw the students` attention to an idea or message contributing to their nutrition understanding.

This technique can be expanded to encourage good nutritional habits by sending letters or fliers to administrators, teachers and/or parents who have a direct effect on the student and his/her education.

*Figure 5*

# STUDENT PROFILES

| FIVE-YEAR OLD KINDERGARTEN | SIX-YEAR OLD GRADE 1 | SEVEN-YEAR OLD GRADE 2 | EIGHT-YEAR OLD GRADE 3 | NINE-YEAR OLD GRADE 4 | TEN-YEAR OLD GRADE 5 | ELEVEN-YEAR OLD GRADE 6 |
|---|---|---|---|---|---|---|
| Active and purposeful | Widening sense of world beyond home | More introspective | Growing up and knows it | Little adult | Peak of preadolescent adjustment | Preadolescence begins to give way of adolescence in varying degrees |
| Relatively independent | Thinks in concrete, specific terms | Sensitive to approval, particularly of adults | Eager and courious but not as responsible as will be | Wants to be accepted as responsible person | Good skills, wide interest with academic labor low on the list | Finds world interesting and is eager to discover its secrets |
| Interest in home | Eager to learn | Critical of self | Impatient to get started and to finish | Remains in conscious need of help | Boys and girls separating in interests--antagonism between sexes sharpening | Wants to figure things out for self |
| Stories of here and now which explain | Asks many questions | Higher standards of performance than skills | Wants new experiences but enthusiasm often exceeds ability | Looks for role models | Doesn't conceptualize or generalize broadly | Girls beginning to be taller than boys |
| Understanding restricted and factual inquiries, often practical and concrete | Little concept of time and space | Better language with wider use | Wavers between desire for independence and dependence | Active and enthusiastic | Good at facts and memorization | More sensitive to criticism |
| Conscious of right and wrong, but can't always distinguish them or accept blame | Great imagination | Loves imaginative world but very interested in here and now | Ofter resents criticism | Attention span markedly longer | Visually interested | Capable of real anger, fear, dejection, elation |
| Appreciates help of others and wants to help | Sense of values growing | Can discuss and reason | Developed conscience | Can work on own projects for long periods | Enjoys discussions | More motivated from within |
| | Conflict between desires and sense of standards | Is more reasonable | Guilt at failures but talks more than broods | Poor sense of personal limit | Can do creative activities | Greater sense of reality makes sense of right and wrong sometimes confusing |
| | Sense of class group and participation in it | Sense of right and wrong growing | Better sense of self | Group and its rules vital | Sense of time broadening to make possible study of history--can know and use many facts of history | Intellectually factual, concrete, specific, but capable of dealing with history and geography |
| | Rudiments of social consciousness | Looks for fair play and honesty | Communicates well | Fair play and rights critical | Sense of right less clear than sense of wrong | Interpersonal relations important and enjoys exploring them |
| | | Sense of wonder | Can read and discuss | Has sense of group status | Enjoys family but also groups beyond family | Critical of adults |
| | | Not for broad abstractions | Sometimes talking for sake of talking | Can think independently about right and wrong | | Competitive yet likes groups |
| | | Understands rules for living as well as for nature | Collector and swapper | Curious about the unknown | | Open to teaching which will help realize more mature values |
| | | Can identify with heroes | Strong interest in dramatics | Past can be exciting | | |
| | | Some sense of larger community outside home and school | Enjoys mental games and play | Accepts other views and can make up own mind | | |
| | | | Interest in other lands and cultures | Teacher important | | |
| | | | | Can relate new knowledge to old | | |
| | | | | Likes facts rather than fantasy, people rather than ideas | | |

# DESIGNING NUTRITION EDUCATION ACTIVITIES FOR THE K-6 STUDENT

Any attempt to design a nutrition education program for children seems like a huge task. Each child brings to school different abilities, talents, interests, potentials, needs, values, heritage and experiences that makes that student an individual with different degrees of learning.

A nutrition program cannot be prescribed, a series of activities dictated, nor can student worksheets be developed that will guarantee that every student will understand and assimilate a concept in nutrition that you may be promoting. Nor should any such program be attempted.

A nutrition program can be designed, however, based on the similar characteristics of children at various chronological age groups. The children in any age group are more alike then they are different. Each age is marked by distinguishable common characteristics, and by many similar ways of behaving and learning. (Figure 5)

All children can be counted upon to have basic needs in common, as well as many differences. Among these fundamental common needs are a balanced day of rest, play, and work; a nutritious and varied diet; a feeling of being needed and loved; a secure place in one's group; a sense of identity and self-esteem; and the opportunity for self expression. It is through understanding the various characteristics and attributes develop as growth occurs in the student that we can make some generalizations about groups of children--even though we must always remember that no two children are alike.

Understanding the patterns or characteristics of growth and development, enable us to form a framework and establish goals for a generalized nutrition education program. Generalization tells us what we might expect--what behaviors have been observed in children of a specific age group in order to determine what can be learned at a particular age and what ways of learning are best.

## *Understanding the Four- and Five-Year-Old*

Kindergarten students are just beginning to assert their independence but their major center of interest is still in the home. While they desire to imitate adults or older children

they still have a great love for fairy tales and other fantasies. They are just beginning to learn about the world through situations with which they are familiar. Children in this age group work best in small groups of three or four with activities that do not require reading or writing.

When preparing nutrition education activities for this age group, you should consider these generalizations:

- They understand nonverbal communications such as a smile, frown, tone of voice, affectionate pat, and respond to them.
- They have had a variety of experiences, seen people use books and paper, watched television, been taught by older brothers and/or sisters, etc.
- They learn best through personal experiences. They need to touch, look, taste, see, hear, test and to tryout in order to begin to make their choices based on their senses of what feels, looks, smells good to them.
- They are eager to learn and please adults and have adults show concern for them.
- They enjoy telling, drawing and painting stories, and like to look at pictures and explain what the pictures are all about.
- They recognize simple symbols such as stop signs and poison symbols, but need time to learn new words.
- They are inquisitive and curious. They want to know how things work and where they come from.
- Most children in this age group are not ready to learn through sitting and listening, nor through activities that require pencil and paper, but learn better in small groups of three or four children.

## *Understanding the Six-, Seven- and Eight-Year-Old*

Children in the first, second and third grades are anxious to assume responsibility and are changing emotionally and socially. They are often cooperative in group activities, enjoy secret societies, rituals, and clubs where they will abide by group decisions. Children in this age group work well in the classroom groups.

When preparing nutrition education activities for this age group, you should consider these generalizations:

- They are exercising independence and becoming more self-assertive yet, are being increasingly influenced by their peer group.
- They want and need much adult encouragement and approval.
- They want to know about children living in other places and how their lives are similar and different.
- They like to look at maps and study pictures of other places.
- They all need many opportunities to touch, feel, handle, experiment, and explore.
- Learning to read and write must be a positive experience for these children.
- They enjoy games involving rhyming words, like and different sounds, picture matching and letter matching, and have visual discrimination.
- They come up with quite creative solutions to problems that, while they seem simplistic, unrealistic and impractical to us, may make sense in their realm of experience.

- They look to answers to why and how questions. They are beginning to observe, compare, contrast, and evaluate.
- They enjoy learning about families of different places, the working of their school, community, climate, and technology.
- They are beginning to take more responsibility for personal safety, eating habits, dental health, and cleanliness habits.
- They are beginning to understand the cause and effect of the choices they make.

## *Understanding the 9-, 10- and 11-Year-Old*

As students reach grades 4-6, they are rapidly becoming removed from the world of the primary child and are anxious to assume responsibility for themselves. They are beginning to develop a greater interest in social affairs, playing more with children of their own age group, than with the younger child.

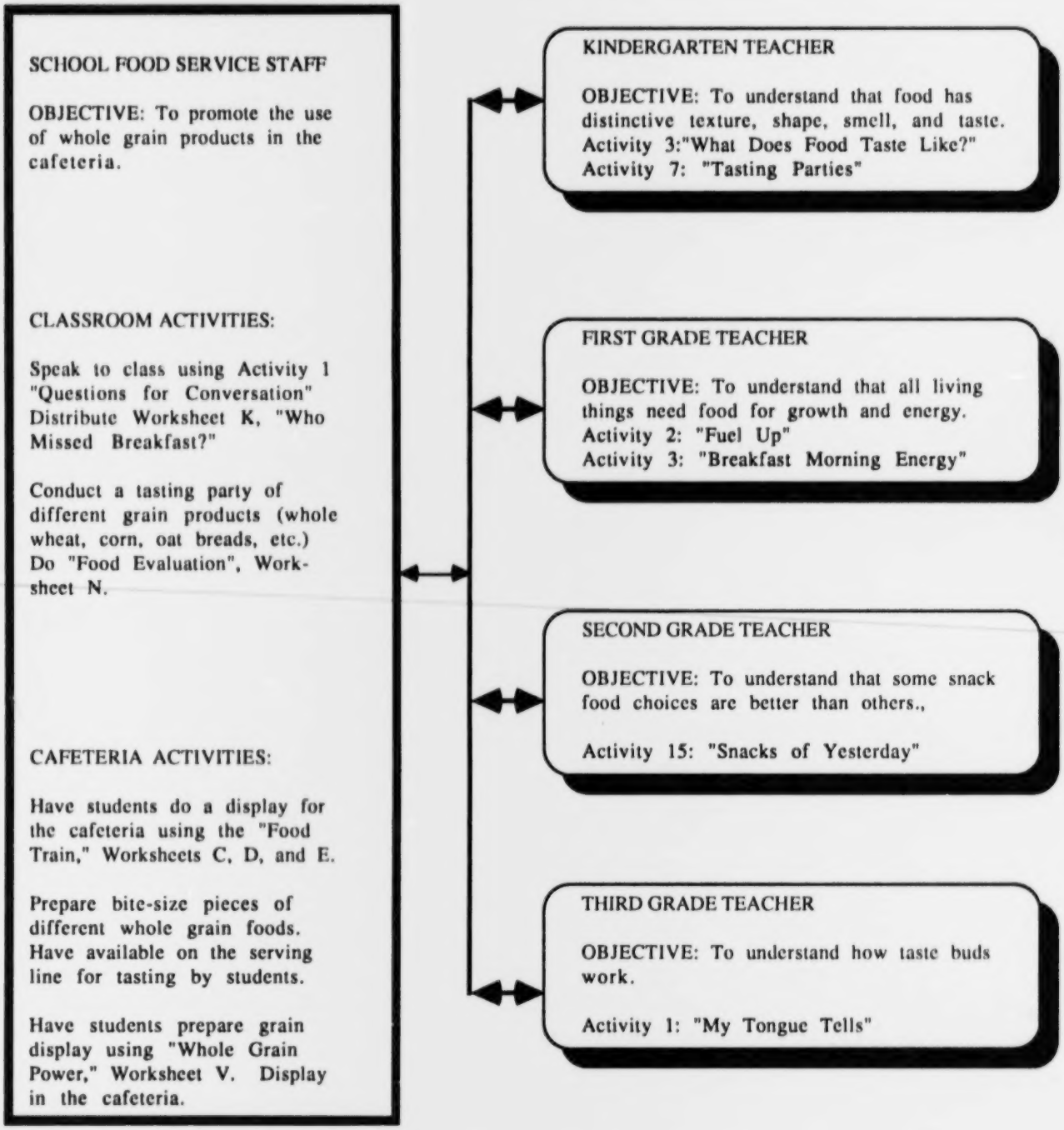
When preparing nutrition education activities for this age group you should consider these generalizations:

- They are developing craftsmanship and can differentiate between a good or a bad job.
- They can spend hours on intricate tasks such as putting model planes together.
- They take more time to look at television or listen to the radio.
- They are beginning to take more interest in themselves and how they look.
- They like to ride bikes, or skate boards and are developing an interest in sports and contests of all sorts.
- They are becoming more conscience of money, both in earning and spending. Many students in this age group may have small paper routes. These students also are being given a greater role in the spending of money.

When designing any nutrition education activity, it is important to remember the characteristics of the age group you are working with. Only then, can you make it a meaningful and understandable experience.

*Figure 6*

# REINFORCING NUTRITION EDUCATION OBJECTIVES


SCHOOL FOOD SERVICE STAFF
OBJECTIVE: To promote the use of whole grain products in the cafeteria.
CLASSROOM ACTIVITIES:
Speak to class using Activity 1 "Questions for Conversation" Distribute Worksheet K, "Who Missed Breakfast?"
Conduct a tasting party of different grain products (whole wheat, corn, oat breads, etc.) Do "Food Evaluation", Worksheet N.
CAFETERIA ACTIVITIES:
Have students do a display for the cafeteria using the "Food Train," Worksheets C, D, and E.
Prepare bite-size pieces of different whole grain foods. Have available on the serving line for tasting by students.
Have students prepare grain display using "Whole Grain Power," Worksheet V. Display in the cafeteria.
KINDERGARTEN TEACHER
OBJECTIVE: To understand that food has distinctive texture, shape, smell, and taste.
Activity 3:"What Does Food Taste Like?"
Activity 7: "Tasting Parties"
FIRST GRADE TEACHER
OBJECTIVE: To understand that all living things need food for growth and energy.
Activity 2: "Fuel Up"
Activity 3: "Breakfast Morning Energy"
SECOND GRADE TEACHER
OBJECTIVE: To understand that some snack food choices are better than others.,
Activity 15: "Snacks of Yesterday"
THIRD GRADE TEACHER
OBJECTIVE: To understand how taste buds work.
Activity 1: "My Tongue Tells"

# ACTIVITIES

This section of *NUTRITION COMES ALIVE IN THE CAFETERIA* presents activities and worksheets that correspond to the *NUTRITION COMES ALIVE* curriculum being used by the classroom teacher. (Figure 6) Examples of the classroom material available for use by the classroom teacher follows the activity/worksheet section of each ACTIVITY.

The activities are presented so the school food service worker may select or develop activities based on students' needs in order to provide nutrition experiences.

These materials may be duplicated and distributed to students, food service workers, teachers, and parents to help achieve an understanding of good nutrition concepts.

# ACTIVITY 1

**PROBLEM:** How can I help students understand that a variety of wholesome, healthy food is necessary for health?

**COOPERATIVE LEARNING EXPERIENCE:** Students will understand that all living things need food for growth and energy.

**INTRODUCTION:** Over 40 different nutrients are found in the foods we eat. These are needed in the in one's daily diet to stay healthy. We generally refer to only the six (6) main nutrients: carbohydrates, fats, protein, vitamins, minerals, and water. Since no one food item provides all the essential nutrients in the proper amounts for our body to stay healthy, we must eat a variety of foods each day. Foods are grouped according to the major nutrient they contain. This is why foods may not look alike, but they are grouped together because of the nutrients they contain. (i.e. spaghetti, rice, bread and cereal may not look alike, but are in the same group because of the nutrients they contain.) The four food groups are: milk/dairy, cereal/grain, meat/meat alternate and vegetable/fruit. Only by eating different foods from within each food group can we be assured that we are getting all the nutrients necessary.

When foods are classified into groups according to the Dietary Guideline, we have the same four food groups and a fifth group called "fats, sugar and alcohol." Foods in this fifth group have very little nutrient value and/or are higher in calories than in the nutrients they provide. We must limit our food intake from the fifth food group because they provide too much fat, saturated fat, and cholesterol in our diets, as well as too much salt and sugar.

In addition to a daily diet that is varied and balanced, we also need to include foods with adequate starch and fiber, exercise to maintain a desirable weight, adequate rest and sleep, fresh air, immunization inoculations, etc. We must also remember that healthy foods mean wholesome foods. In order for foods to be wholesome, they must be relatively clean, free from germs and be properly prepared to prevent vitamin and mineral loss during preparation and/or cooking. In order for food to be healthy, they must be attractive and appealing so they will be consumed.

ENCOURAGE CLASSROOM TEACHERS TO USE CORRESPONDING TEACHER ACTIVITIES FOUND IN *NUTRITION COMES ALIVE*

Grade 1: Activities 1, 2, 3, 4, 5, 6, and 7

Grade 4: Activity 5 and Worksheet D

Grade 5: Activity 5, Worksheets I and J

Grade 6: Activities 8, 18

# ACTIVITY 1, *continued*

- Examples of living and nonliving things. (Food, plants vs. paper, comb, etc.)

- ***Classroom Questions for Student Involvement:***

  **How are living things different from nonliving things?** Living things grow. They also move. Plants move towards light when they grow. Living things use air, food, and water to grow. Emphasize that living things can be good or bad. Germs are living things, but can be bad for the body and make one sick. Germs can be lessened if we wash our hands before handling, preparing, or eating food. Take the proper precautions listed in the *Major Rules for Personal Cleanliness*, noted in the last section in this activity.

  Emphasize that all living things need food for energy and growth. All living things grow, but growth does not always mean getting taller or heavier. When hair and fingernails grow they get longer. Cuts that heal are also a sign of growth. Have students look around the class and name general living and nonliving things such as other students, plants, paper, pencil, desks, etc.

  **Who is a healthy person?** One who takes care of his/her body with proper exercise, sleep, and nourishment and avoids germs as much as possible.

  **How do we recognize healthy persons?** They are very energetic and alert, they relate to other children and adults, they like to learn, etc.

- Duplicate Worksheet A, "Food Facts" in sufficient quantity for distribution to students.

  **What is needed to be healthy?** A daily diet that has many different kinds of foods. These foods are divided into four food groups according to the main nutrient they contain. The food groups are the major four groups of cereal/grain, meat/meat alternate, fruits/vegetables, milk/dairy. The fifth food group supplies various nutrients, but should be restricted in the diet for health reasons.

  In the fifth group we find foods high in fats, sugar or alcohol. These foods supply calories, or energy, but little else for growing bodies. The exception to this is vegetable oils since they do supply small quantities of Vitamin E and essential fatty acids. Food in this class like candy, soda, potato chips, etc. are "in addition to" or "once in a while" or "party foods" and are not foods that should be substituted for any food in the other four major groups.

- Duplicate Worksheet A "Food Facts" in sufficient quantity to distribute.
- School Lunch Menu.

- Using Worksheet A, "Food Facts", have students review school lunch menus to see what nutrients and food groups are represented. Use the blackboard to list the four major food group classes and the fifth food group called "fats,sugars and alcohol." Have students put the names of the foods in the proper group. Students could develop a school lunch menu that would be featured in a future month. Point out that when cookies, cakes, pies, etc. are on the menu, these do not fit into any of the four groups classes, so they are put into the class called other.

- Worksheets G and H, School Lunch Letters to Parents and/or Teachers.

- Prepare letter for teachers, administrators and/or parents describing the nutritional requirements and concerns facing the students in your school. Describe the important part school lunch plays in meeting these needs. Examples of such letters are found on Worksheets G and H.

# ACTIVITY 1, *continued*

- Worksheet L, "Menu Designing Puzzle" reproduced in sufficient quantity to distribute to students.
- Dairy Council's Food Models.
- Old magazines and/or drawing materials.

- Using Worksheet L, "Menu Designing Puzzle", have students draw or paste a picture in each section of the puzzle to represent a food item. These items should represent the cereal/grain, meat/meat alternate, dairy and two items from the fruit/vegetable group. Cut along bold lines and have the students put all the pieces into a paper bag or carton. Mix the pieces and have students select five pieces from the bag or carton. Have students "trade" pieces with other students until they form a complete menu. This activity could be expanded to have students learn menu appeal.

  — For students whose menu may be all one color, (i.e. corn, banana, bread, fish and milk) they could trade pieces with other students to add color--substitute an apple for banana, tossed salad for corn, etc.

  — For students whose menu may be all one shape, (i.e. hot dog/roll, carrot sticks, bananas and milk) substitute carrot rounds for the sticks, and a pear for the banana etc. Students could trade food items to vary shapes.

- Paper Plate.
- Black marker or crayon.
- String, yarn or ribbon.

- Using a black marker, have students section off a paper plate into five areas. Have student analyze the menus of school lunch by having them place in each section of the plate, through word or picture, a component of the school lunch for a day. Have students cut or draw a picture of a milk carton. Join milk carton and plate with string or ribbon.

- Worksheet B, Examples of material prepared for teachers, parents, etc.
- Duplicate Worksheet I.

- Refer to the *Nutrition Comes Alive in the Cafeteria* resource material for information. Using Worksheet B for a guide, edit and duplicate the material found in the resource material to prepare information to address a nutrition concern in the community.

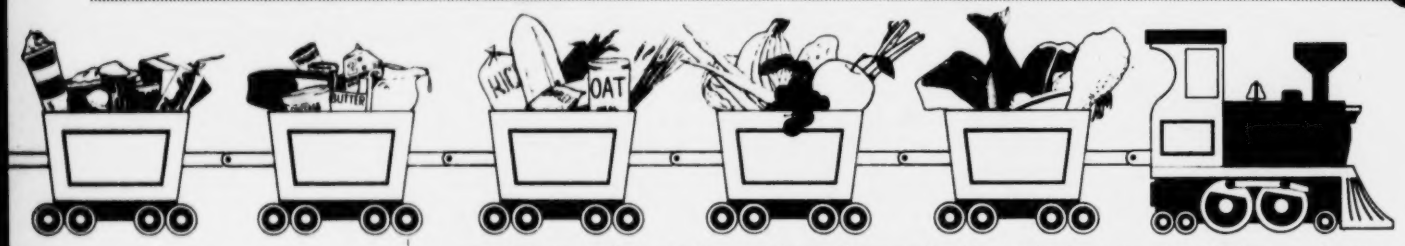
  — Duplicate Worksheet I, a letter to school food service staff in sufficient quantity for distribution to all staff members, or substitute other information.

- Worksheet C, D and E, "Display Train", reproduced in sufficient quantities for distribution to students.
- Dairy Council's Food Models, old magazines and/or drawing materials.
- Old magazines and/or drawing material.
- Colored yarn or string.

- Have students cut out and trace on different color construction paper, the engine and five cars found on the Worksheets C, D and E. Label one car, "Milk/Dairy", one car "Meat/Meat Alternate", one car "Cereal/Grain", one car "Vegetable/Fruit", and the last car "Other" or "Fats, Sweets and Salts". Cars may be tacked on bulletin board or glued on poster board. If cars are glued, be sure to leave room at the top of the car to form a pocket for pictures of foods to be inserted. Connect the train, using colored yarn or string. Cut pictures of foods from magazines or use food models. If you're using magazine pictures, be sure that there is only one food. Macaroni and cheese, pizza or foods that are in combination, could confuse the younger child. Insert food into the proper car.

  — Have students write a special message on each car, i.e. the Milk/Dairy Car could say "Choose Low Fat Milk and Cheese"; the Cereal/Grain Car, "Choose Whole Grains For More Fiber"; the Meat/Meat Alternate Car, "Choose Fish and Beans Often"; Vegetable/Fruit Car could cite a special message relating to one or more vitamins such

# ACTIVITY 1, *continued*




as vitamin A for good eyesight and smooth skin. The last car, the "Other or the Fat, Sweet and Salt Car", could have the message "Eat Less Of These".

— Have students name the train. It could be "Good Health Express," the "Lunch Line Express," the "(School Name) Health Express" or a name chosen by the students. Students could also cut out letters and title their displays. "Stay On The Track For Good Health" or a title chosen by the students. If ethnic food were depicted in the cars of the train, it could be called the " Oriental Express," "The Rome Express," etc.

— The train could decorate the cafeteria and students could use the school lunch menu to fit the items you will be serving into the proper train car. This could be done over a monthly time period to help reinforce the students identification of food groups.

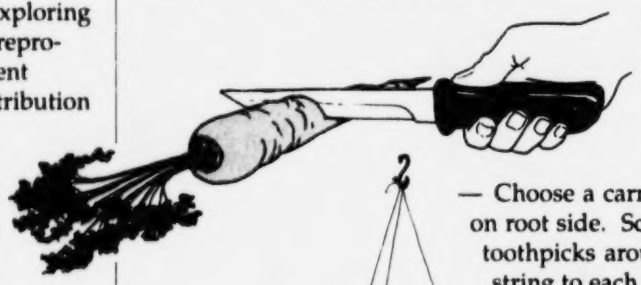
- Launch a "Dietary Guideline Awareness Month." Using the advertising techniques outline in the *Nutrition Comes Alive In the Cafeteria,* resource material.

- Duplicate Worksheet I.

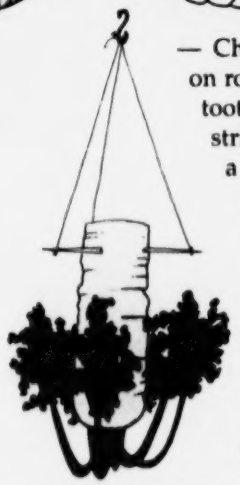
— Duplicate Worksheet I, Letter to School Food-Service Staff in sufficient quantity for distribution to all staff members.

- Worksheet F, "Exploring Plant Growth," reproduced in sufficient quantity for distribution to students.

- Distribute Worksheet F, "Exploring Plant Growth." Discuss that all living things need food and water to live and for energy.



- Carrot with top greens intact.
- 3-4 toothpicks.
- String.
- Knife.
- Spoon or melon scoop.



— Choose a carrot and cut about 2 1/2" to 3" off of carrot on root side. Scoop out the inside of the carrot. Place 3-4 toothpicks around the carrot, about midpoint. Attach a string to each toothpick and hang carrot upside down in a sunny place.

Carrot top leaves will be hanging down. Fill the hollow center of the carrot with water and have students check daily to be sure center of carrot is filled with water. Carrot top leaves will turn and grow upward until all the food nutrients stored in the carrot are used up. Then the leaves will loose energy, become limp and turn downward. Plants loose energy when not fed. Point out that this happens when we do not eat adequate meals.

# ACTIVITY 1, *continued*

- Worksheet J, "Need More Energy Food," reproduced in sufficient quantity for distribution to students.
- Old magazines and/or drawing material.
- Poster board or bulletin board.

- Point out to students that foods high in carbohydrates are often called "energy foods". Use the Resource material and other material for more information on carbohydrates. Distribute Worksheet J to students.

—Have students draw or cut from magazines, pictures of different types of foods. Use these to create a bulletin board or poster board display for the cafeteria using these pictures. Display could be titled "Food for Growth and Energy", "We All Need Food", etc.

- Poster board or bulletin board.
- Art material.

- Have students do a chart to show the time span between the food eaten at breakfast, lunch, dinner, breakfast, and lunch again. Note that the largest time span is between dinner and breakfast.

6AM
12N
6PM
12M
6AM
12N

— Eliminate the second breakfast time period meal. Students can now see the extended time span between dinner one day and lunch the next day. This will reinforce the importance of the breakfast meal for the student.

6AM
12N
6PM
12M
6AM
12N

- Worksheet K, "Who Missed Breakfast?" reproduced in sufficient quantity to distribute to students.

— Distribute to students Worksheet K. Have students color the worksheet and indicate the student with the least expenditure of activity.

— Volunteer to be a speaker in the classroom, student meeting, PTA meeting, etc. and introduce the need of food for growth and energy. Stress the importance of a nutritious breakfast meal in helping students start a school day. Breakfast supplies the energy for students to concentrate on learning and aids in their pursuit of educational excellence.

# ACTIVITY 1, *continued*

- Old magazines and/or drawing material.
- Poster board or bulletin board.

- Conduct a one-week campaign emphasizing one of the following:
  - High Fiber and Starch Foods
  - Low Fat Foods
  - Low Salt Foods
  - Low Sugar Foods

— Have students develop and display posters which contribute to the theme you are promoting for the week.

—Develop materials that can be distributed during the week to students and teachers.

- Hand washing facility, soap and towel.

- Use hand washing facilities to emphasize that people who handle food must have clean hands. This helps protect them and others against some germs.

- Demonstrate how to wash hands properly, stating that this should always be done before preparing or eating food.

- Prepare for student tour of cafeteria.

- Explain to students practices used in school kitchens to insure that children receive food that is wholesome. A tour of the cafeteria could include students observing the dishwasher, clean work/serving areas, clean workers, trash cans cleaned and covered, sneeze guards on serving line, the use of gloves in the kitchen, etc.

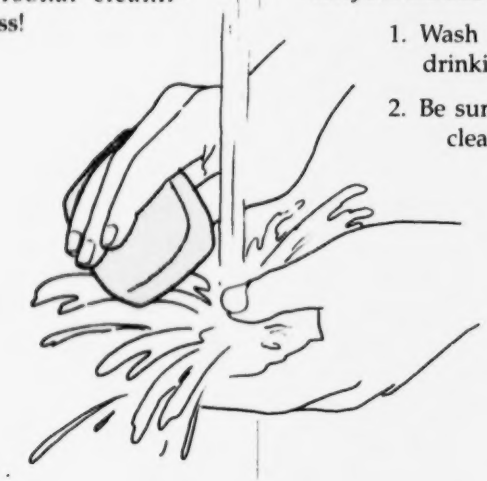
- Vegetable brushes.

- Allow students to use a clean vegetable brush to wash and clean raw vegetables to impress the need for sanitation when working with food and beverages.

- Stress the major rules of personal cleanliness!

**MAJOR RULES OF PERSONAL CLEANLINESS**

1. Wash hands thoroughly with soap and water before preparing, eating or drinking food or beverages.
2. Be sure equipment, including tables, knives, forks, spoons, plates, etc. are clean.
3. Do not put hands on hair or face when handling food or water.
4. Do not handle food or water for others if your hands have cuts or sores unless you wear gloves.
5. People with colds should not handle food for others.
6. People with colds should cover mouth or nose when sneezing or coughing.



# NOTES ON ACTIVITY 1

## NUTRIENTS

There are six (6) classifications of nutrients found in food. They and their sources are:

| KINDS | SOURCE | FUNCTION |
|---|---|---|
| Carbohydrates | Bread, cereal, fruits,honey, jelly, corn, rice, potatoes, sugar, syrups, other sweets | Supply food energy and spare proteins for building and repair. |
| Proteins | Meats, fish, poultry, eggs, cheese, milk, beans, peas,peanut butter, some cereals/bread | Build and maintain all tissues, help regulate body processes, and supply food energy. |
| Fats | Cooking fats, and oils, butter, margarine, salad dressings, bacon, sausage, and other fatty meats. | Supply food energy in compact form, carry fat soluble vitamins, and are the sources of essential fatty acids. |
| Water | Water, soups, beverages, fruits, vegetables Most foods contain some water. | Carries nutrients to and from the bodies tissues, aids in digestion and absorbtion of food, and helps regulate body temperature. |
| *Minerals and Vitamins | Fruits/vegetables, meats, milk, fortified enriched and whole grain breads and cereals. From eating a variety of foods from the four major groups. | Health maintaining and growth promoting functions in the body. |

**These have been grouped together because the distinction between the two is difficult to teach and for children to understand.*

## FOOD GROUPS

Foods are grouped according to the major nutrients they contain. These are:

| FOOD GROUP | NUTRIENTS CONTAINED | FOODS INCLUDED |
|---|---|---|
| Fruit/Vegetables | Carbohydrates<br>Minerals<br>Vitamins<br>Water | Citrus fruit and juice<br>Any vegetable |
| Cereal/Grain | Carbohydrates<br>Proteins<br>Minerals (Iron)<br>Vitamins (B) | Bread and bread products including muffins and rolls.<br>Cereals<br>Grains (rice, barley) |
| Milk/Dairy | Protein<br>Minerals (Calcium, Phosphorus)<br>Vitamins (D, A, Riboflavin)<br>Water | Whole, skimmed, 2%, buttermilk, canned, instant, cream, etc.<br>Yogurt<br>Cheese |
| Meat/Meat Alternate | Protein<br>Minerals (Iron, Others)<br>Vitamins<br>Fats | Meat, Poultry<br>Fish and Shellfish<br>Eggs<br>Legumes (peas, beans)<br>Nuts |
| Fats Sugar and Alcohol | Low nutrients<br>High in calories<br>High sugar and salt foods<br>Fats and oils<br>Alcohol | Potato chips<br>Condiments (catsup, olives, etc.)<br>Sweets (candy pie, cake, jam, jello, etc.) |

# WORKSHEET B

**(SCHOOL LETTERHEAD)**

Dear Parent/Guardian:

It is often thought that children and vegetables just don't mix. Actually, children may dislike certain vegetables just because they are unfamiliar. Even an adult can pass up a serving of a vegetable that is overcooked or looks unappealing. Because vegetables are good sources of several important nutrients, especially vitamin A, vitamin C, and fiber, children should be encouraged to taste and develop a liking for a variety of vegetables. Certain preparation techniques may help to make the "hated vegetable" more likeable.

Vegetables should be cooked in the least possible amount of water and time. Too much water may cause the vegetables to become mushy and unappealing. Also, water-soluble nutrients such as vitamin C are lost when too much cooking water is used. Mushiness can also result from overcooking. Some vegetables lose their color and flavor when cooked or held too long. Why give a colorful, appealing vegetable the blahs? A little care in vegetable cookery not only leads to a more attractive product, but a more nutritious one, too!

Children like variety! Experiment with different methods of vegetable preparation. Why not try stir-fried vegetables? Sometimes raw vegetables are better accepted by kids. Add different chopped or sliced vegetables to salads. Or how about a relish cup with vegetable dip? When introducing a new vegetable, offer your child a smaller portion. Let your child ask for more!

A serving of vegetables, properly prepared, can add a colorful touch to any meal. Watch the cooking time and the amount of water you use! Let your imagination go when it comes to different methods of preparing and serving vegetables. Vegetables and kids do get along!

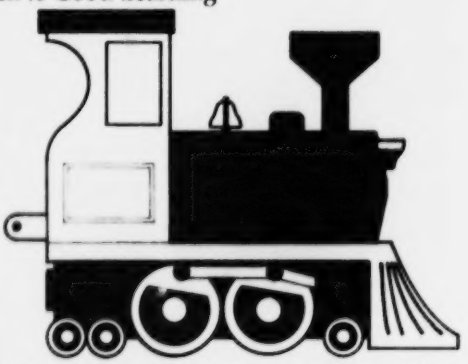
(Sign your name)

School Lunch Director

# WORKSHEET C

**EXAMPLES FOR A TITLE OF DISPLAY:**

"On the Track of Feeling Healthy"
"School Lunch Keeps You On The Track to Good Learning"
"The Energy Express"



**PREPARATION:**

Use the engine pattern and cut engine out of black construction paper. You may want to enlarge pattern before cutting.

Using the car pattern, trace the pattern on various color construction paper and cut out. The colors can vary to correspond to the school colors, correspond to the idea of food groups (i.e. red for meat; green or yellow for fruit or vegetable; white for dairy; orange for bread, and purple for the fats, sugar and alcohol food group), or the cars could be the color theme choice of the students.

**METHOD FOR USE:**

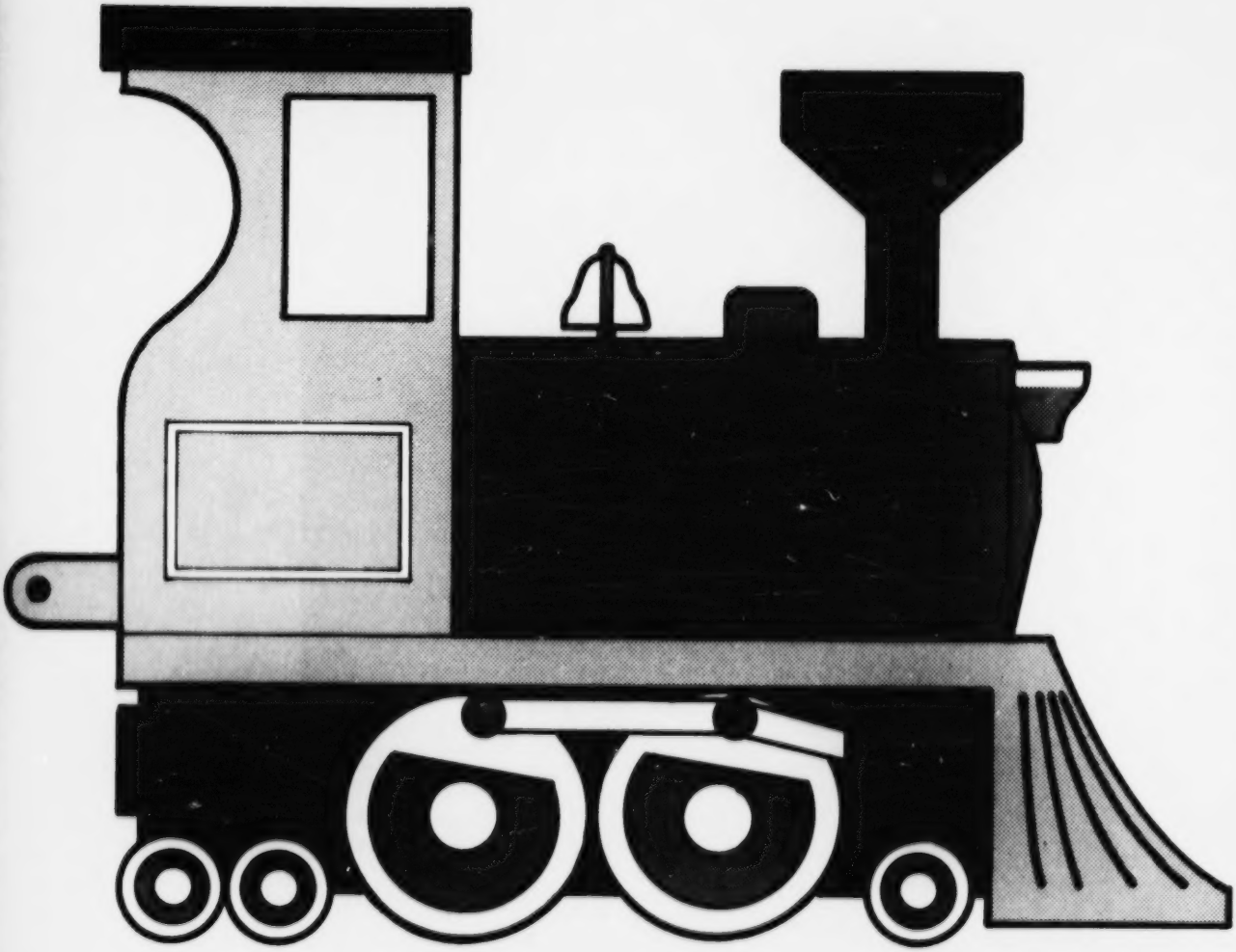
1. Tape engine and as many cars as needed on a bulletin board or run the engine and cars around a classroom or cafeteria wall.
   Label each car with its own food group--meat/meat alternate, dairy, bread/grain, fruit/vegetable, and fats, sugar and alcohol.
   or
   Each day put in the cars what the menu item from that food group will be for that day. Pictures cut from magazines could also be used.
   or
   Fill each car with various foods that are found in identified "food group" cars.
   or
   Fill each car with the major vitamins and minerals contained in those identified "food group" cars.

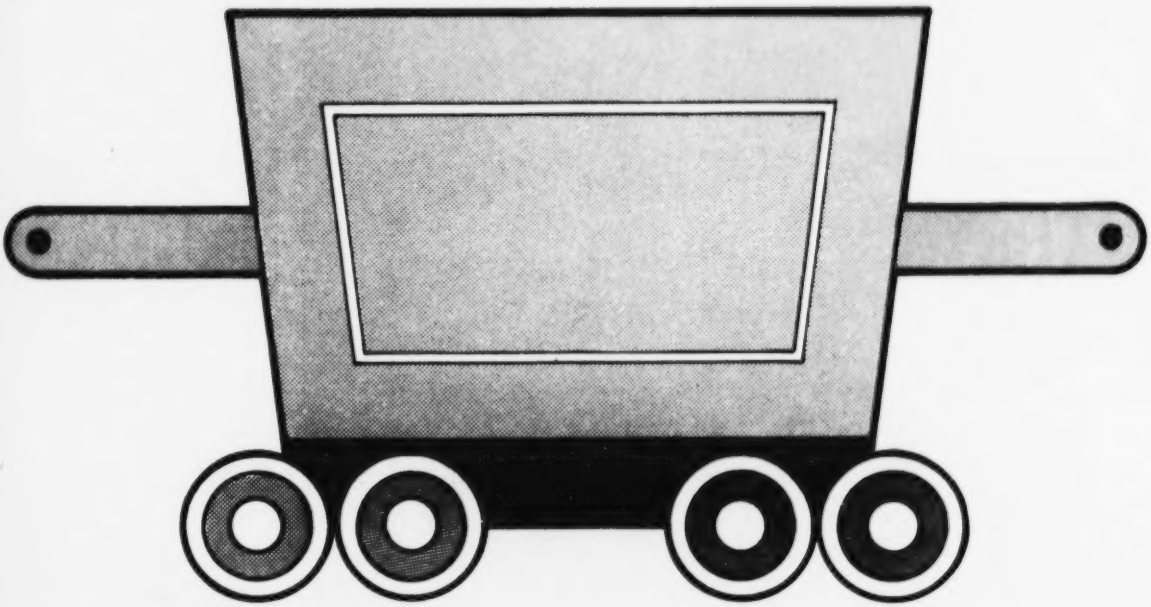
2. Make a snack train by filling each car with foods that are used for snacking according to food groups. Some examples could be:

| | |
|---|---|
| Meat | peanut butter, nuts |
| Dairy | milk, cheese |
| Fruit | bananas |
| Vegetable | carrot sticks |
| Grain | crackers, bread |
| Fats, Sugar and Alcohol | cupcake |

3. Have each student cut out a car, put his/her name on the car and put a favorite meal into the car. Stars could be put on those cars that have a meal that follows the dietary guidelines and is representative of the four major food groups.

4. Have each class cut out one car and put the name of their teacher on the car. Each class could indicate what nutrition education activity is in progress in their classroom.





# WORKSHEET F



**Advance Preparation**

Collect:

- Paper cups or small milk cartons and markers for names, 1 per child.
- Packet of radish seeds.
- Potting soil.
- Waterproof trays to hold the potted seeds.

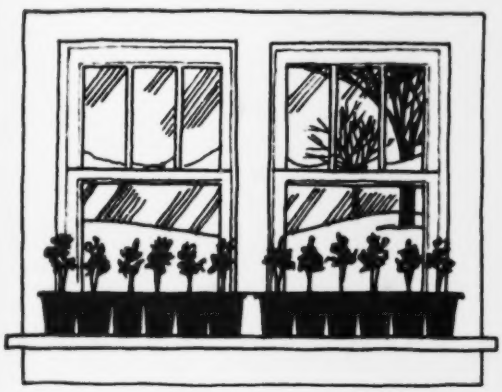
**Food for Plants**

Explain that plants are living because they grow. As they grow they move toward light. To grow, plants need special substances that provide them with food, Ask the students to name the elements they think are important for plant growth Answers should include soil, water. light and air. List them on the board.

**Grow Radishes**

Give each student a paper cup or milk carton, a marker, two radish seeds, and potting soil. Have students punch a few small pencil holes in the bottom of the container for drainage.

Students will fill the containers with soil, add the seeds, and cover them with one-fourth inch of soil. Students should push the soil down firmly and add water. Have the students place their cups on waterproof trays near a window in the cafeteria with bright sunlight. As the soil dries out, the seeds will need small amounts of water. Have students check the soil condition each day. Radishes will germinate in 3 to 10 days and should mature in 20 to 25 days. Discuss and compare the growth of the plants.



- What did the seeds need as "food" to grow? (Soil, water, light, air.)
- When did plants first appear from the seeds?
- Measure and graph the plants' growth every two or three days.
- When did the plants grow fastest?
- Did all plants grow to the same size?

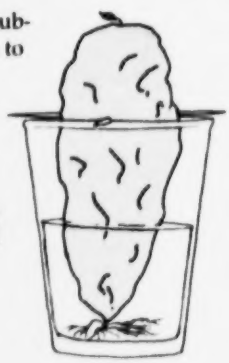
Reinforce the idea that living things may vary somewhat in their growth. Even under good growing conditions some plants will grow larger than others. Radish plants grown inside may or may not produce radishes large enough to pick and eat.

**Limit growth**

As an additional experiment, have food service workers plant seeds with the students. Grow the food service workers' plants under less than ideal conditions. Grow some plants without sunlight, some without water, and some without soil. Seeds without soil may be started on a damp sponge or in pebbles. Help students see that light, water, and soil are all important for plants to grow.

**Additional Activities**

- Sprout seeds. Although plants will not usually grow well without the substances supplied by soil, many seeds can use the food stored within them to sprout roots when they are kept damp. Sprouted seeds can then be planted in soil, grown, and eaten. Have students place alfalfa or been seeds on a wet sponge that is partially submerged in water. The seeds will sprout when moistened.



- Sprout a sweet potato by partially submerging its narrow end in a glass of water. Use toothpicks to hold the potato in place. The potato will sprout when placed near light.

**(SCHOOL LETTERHEAD)**

Dear Parent/Guardian:

We know you are actively interested in your child's academic pursuits and athletic progress, but have you thought much about your child's eating habits in the school lunchroom? Here, children are exposed to lessons in community living, applied economics and nutrition. It is in the cafeteria that your children learn to eat politely with a group outside the family setting, learn to respect the rights of others by showing good table companionship; acquire a set of values as to what returns money can purchase; and, learn to go to a counter and select a menu wisely, nutritiously and quickly, OR, DO THEY?

The policy of the school cafeteria is simple--offer the best possible value for the food dollar. Is your child capitalizing on this fact? Is he/she participating in the School Lunch Program? Are you showing you child that you are aware that the midday meal is an integral part of the day's nutritional needs? Frequently, a child abuses the freedom of spending a luncheon allowance by buying a one-sided lunch consisting mainly of dessert items, or selecting a nutritious lunch but not eating it.

A school lunch provides your child with at least one-third of the daily recommended dietary allowances of required nutrients needed for growth and good health. The component of the lunch are: *1 cup of milk*, for calcium, vitamin D and protein; *2 oz. of meat* or *meat/alternate* for protein, B vitamins and iron; *2 different vegetables and/or fruit (3/4 cup total)* for vitamins A, C, minerals and fiber; and, *1 slice of bread* or *1/2 cup bread alternate* for B vitamins, iron (and, also fiber if whole grains are used). In order to avoid plate waste and to allow your child to select nutritious foods, a child may have the options of choosing 3, 4 or 5 of the above components and still participate in the program.

Does your child select the type of menu at school which complements the other carefully planned meals that you provide at home? Do you ever ask them what they selected for lunch in the school cafeteria? When your children bring a sandwich from home, do they only buy chips or cake at school, or do they buy soup, milk or a piece of fresh fruit to add to the nutritional value of the sandwiches?

As a parent/guardian, you should be interested in how your child spends his/her money to get maximum food values. Have you visited the school cafeteria? Most parents/guardians are astounded at the major industry many school lunchrooms prove to be. They are amazed that such attractive food can be sold at so low a price. Are you aware of what goes on so that when "Johnny" comes home and tells you that he ate three servings of ice cream at school today, you are ready with a reply?

We appreciate your interest and support of our food service program at (name of school). Please do not hesitate to contact us at (school phone number) if you would like further information about your school lunch program.

Sincerely,

(Your signature)
School Lunch Director

# WORKSHEET H

**(SCHOOL LETTERHEAD)**

Dear Teacher/Administrator:

May I take this opportunity to thank you for your support of the School Lunch Program and to share with you some information about the lunch program we have at (name of school).

1. All school lunches, including those you purchase, are prepared and served as nonprofit transactions. Lunches that are sold to students are subsidized by the State and Federal governments. Adult meals are not subsidized. This is why the cost of the meal is slightly higher for adults. The difference in price between your lunch and the student's lunch represents the amount of subsidy per lunch received from the State and Federal governments and the amount of sales tax which must be collected for adult meals.

2. The food items offered for school lunch and the portion sizes are mandated by the United States Department of Agriculture and regulated by the New York State Education Department. These requirements and portion sizes are designed to provide at least 1/3 of the Daily Recommended Dietary Allowance (RDA) to the school age child, follow the Dietary Guidelines to reduce salt, sugar, and fats and increase the amount of fiber through a diet consisting of a wide variety of foods.

3. The food used in the lunch program is purchased from reliable vendors who are required to bid price quotations on food items. This assures the highest possible quality of food for the lowest possible price. Some of the food items used in the program are supplied by the Federal government. These items represent surplus food supplies purchased by the government directly from the commodity market.

There are many other things that contribute to the lunch program such as cooking methods, sanitation, and food storage. If you have any questions regarding our school lunch program, please do no hesitate to contact me in the cafeteria at any time. Your continued support is most welcomed.

I hope that this short note helps to assure you that school prepared meals are a real bargain — cost wise, nutrition wise, and quality wise!

Sincerely,

(Your name)
School Lunch Director

**(SCHOOL LETTERHEAD)**

Dear Fellow Food Service Worker:

We will be stressing the *Dietary Guidelines* approach in helping children make good food choices in the cafeteria. These guidelines, while they promote the four food group theory, add a fifth food group called fats, sugar and alcohol. This group includes foods with a high content of salt, sugar, fat, and alcohol. People often refer to this group as "junk" food. However, because the foods do contain nutrients, they should not be branded as "avoidance" foods by healthy individuals. To completely restrict these foods would indicate that a health condition such as diabetes, hypertension or high cholesterol exists. Instead, by stressing that these foods be used in moderation, we create an awareness about the use of candy, high salt, sugar or fried foods in the diet.

School lunches that will be accepted by students, can be prepared following the dietary guideline. We can increase the nutritional benefit of meals we serve the students. First, make the students aware of health problems associated with poor nutritional habits. Since most students think in the "now" time frame, these problems should be related to "now." Students will not be that interested in what health problems their current nutrition habits may produce in later years. Students are concerned with energy, weight, and personal appearance such as healthy skin and hair, and these are some of the areas where the effects of poor nutrition can be addressed. The next steps will be to:

— cut down on the salt content of meals:
- serve less prepared luncheon meats that have a high salt or nitrate content such as bologna or salami
- gradually use herbs to season vegetables and cut down on the amount of salt added to cooked foods
- purchase vegetables packed in natural juices rather than salted water

— cut down on the sugar content of meals:
- serve desserts that have less sugar such as cake topped with fruit instead of icing
- purchase fruits packed in natural juices or light syrup instead of heavy syrup
- serve cereals that are not sugar coated or those to which sugar has not been added

— cut down on the fat content of meals:
- serve more fish, turkey, chicken, or lean meat that is baked or broiled instead of high fat beef
- whenever its necessary to use fats, use vegetable fats instead of fats from animal sources
- cut down on the use of cheese on the menu or use skim milk cheese
- use natural juices for gravy instead of purchasing thick gravy sauces

— increase the amount of fiber in meals:
- establish a salad bar or include salads on the menu every day
- add fresh fruits or raw vegetables on the menu daily
- increase the use of whole grain breads instead of those made with white bread

All of these are positive steps that we can take to ensure that school lunch is the "best" meal of the day and serves as a model for a nutrition well-being.

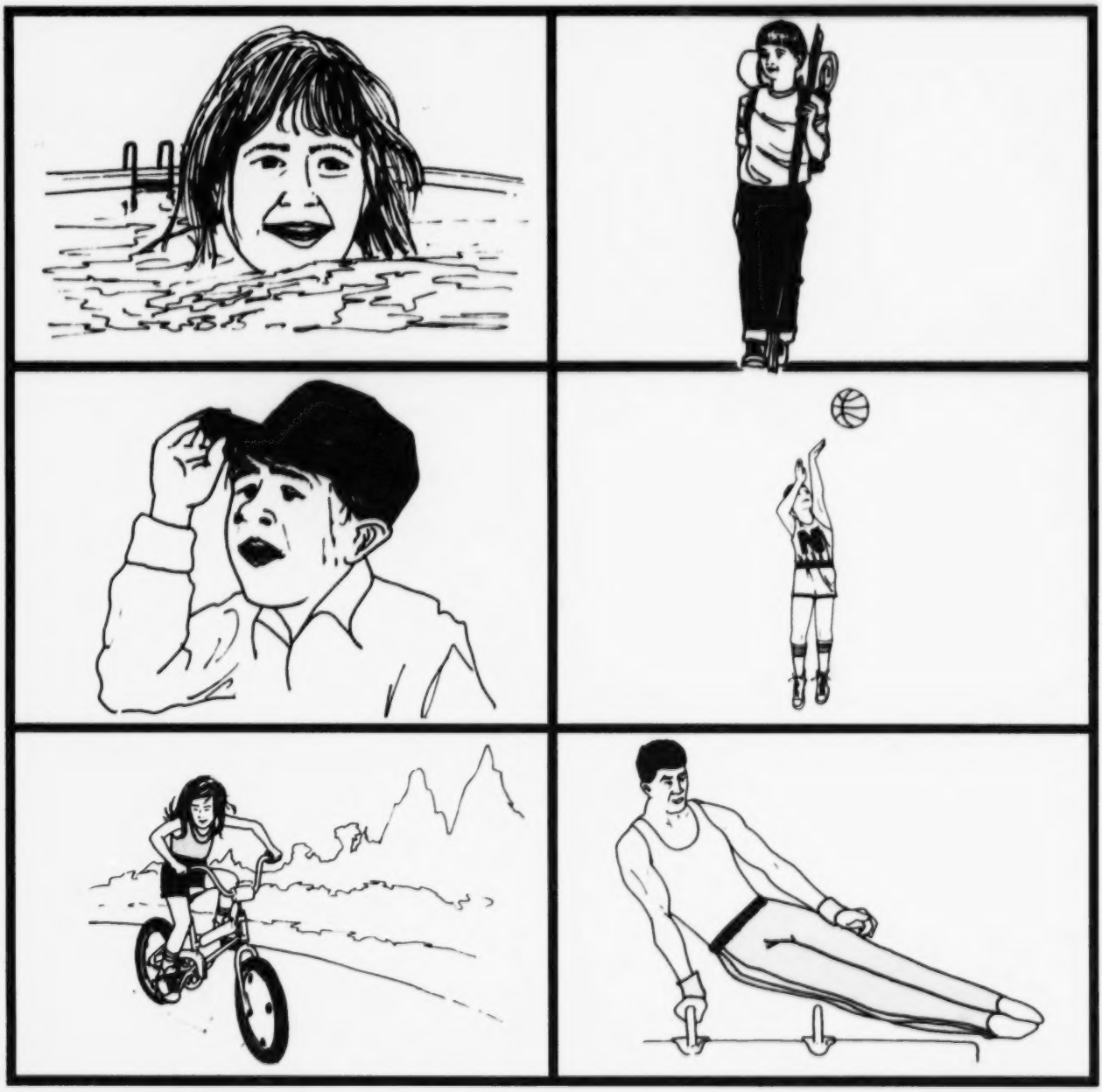
Sincerely,

(Your name and title)

WORKSHEET J

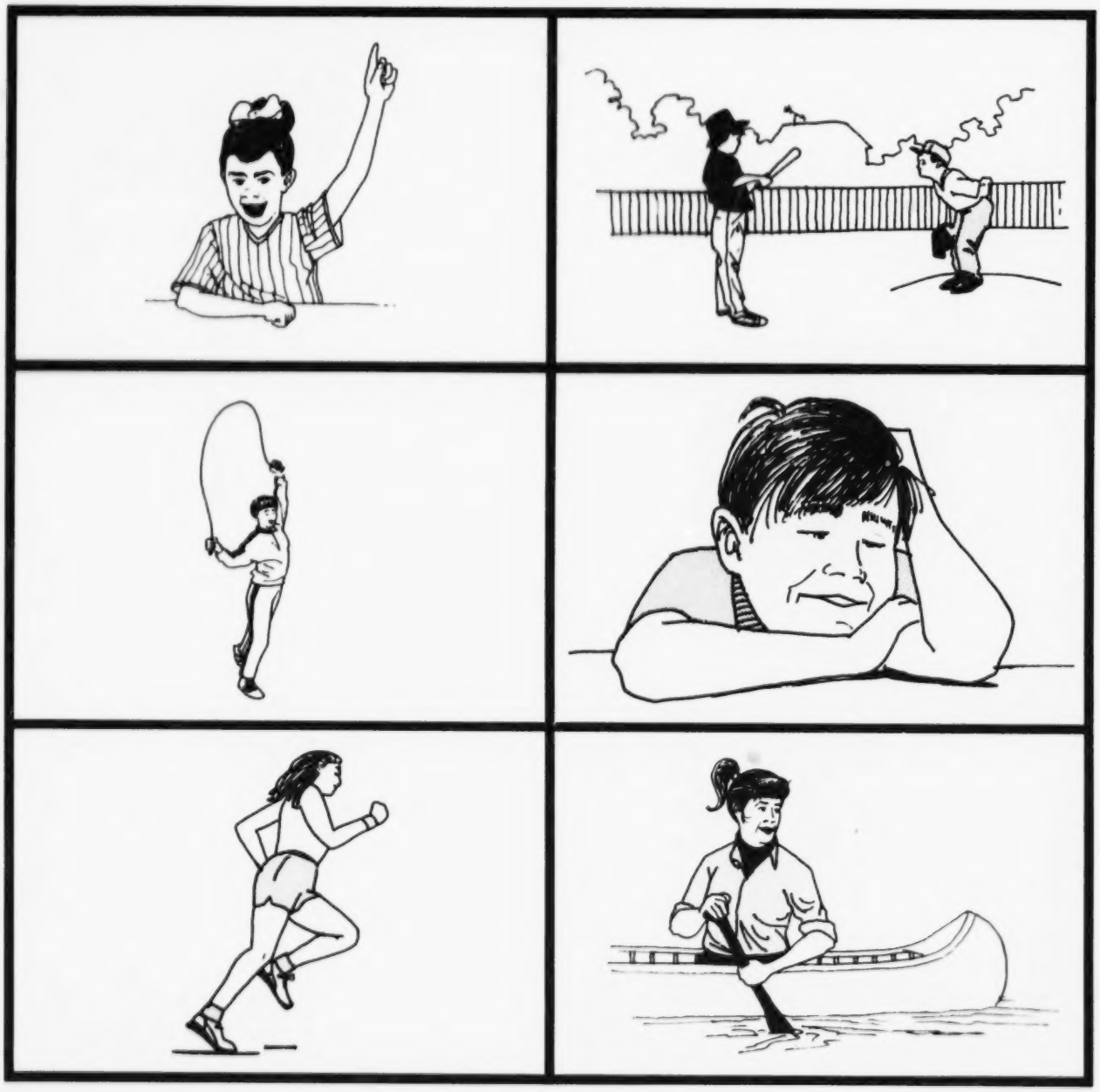
# NEEDED —MORE ENERGY FOOD

CIRCLE THE STUDENT WHO NEEDS MORE ENERGY FOOD



# WHO MISSED BREAKFAST?

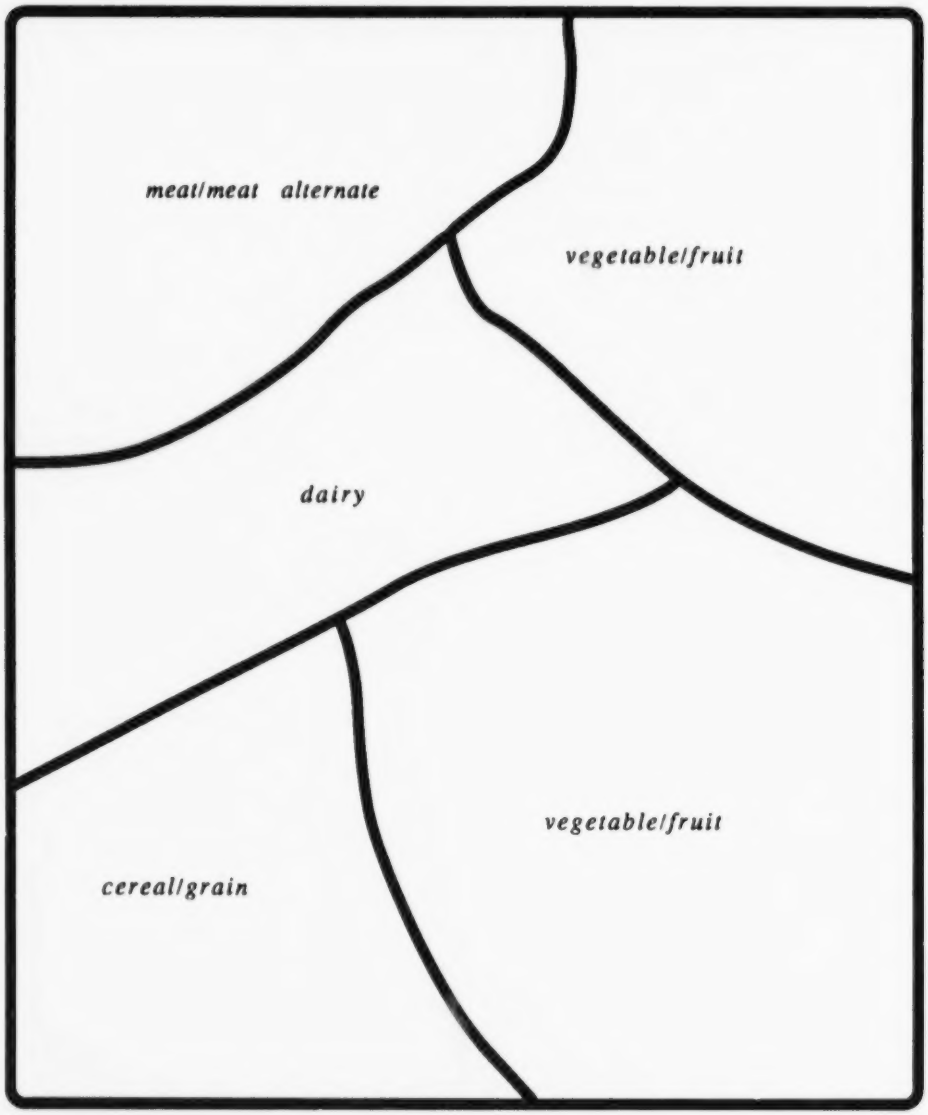
CIRCLE THE STUDENT WHO PROBABLY MISSED BREAKFAST



WORKSHEET L

# MENU DESIGNING PUZZLE

DRAW OR PASTE ONE FOOD ITEM INTO EACH OF THE AREAS
CUT PUZZLE ALONG BOLD LINES AND INTO 5 PIECES



# ACTIVITY 2

**PROBLEM:** How can I help the student recognize that foods come in different forms and to accept new foods or food items that appear on the menu?

**COOPERATIVE LEARNING EXPERIENCE:** Students will learn that food has distinctive textures, shapes, smells, and taste, and that these influence food choices.

**INTRODUCTION:** Foods that are unfamiliar to students, usually will not be accepted by the student in the cafeteria. If small portions are given to students to taste, food may have a better acceptance. Taste-testing experiences, foster two events. Students are encouraged to accept and include the new food item in their diets and, by preevaluating the student's acceptance of the food item, you will be avoiding high food waste in your program. Foods and recipes that students are unfamiliar with may cause customer rejection on the serving line. Students must be educated before being given a food item with a new content and/or taste. If students reject the food item before you include it on the menu, you can adjust the cooking, preparation and/or presentation method until students will accept the item. If it is decided that the majority of students have rejected the item repeatedly at testing sessions, then your school should not include the item on the menu.

ENCOURAGE CLASSROOM TEACHERS TO USE CORRESPONDING TEACHER ACTIVITIES FOUND IN *NUTRITION COMES ALIVE*

| | |
|---|---|
| Grade K: | Activities 2, 3, 7 |
| Grade 1: | Activities 10, 11 |
| Grade 3: | Activities 1, 2, 5 and Worksheet F. |
| Grade 6: | Activity 5, Worksheet J |

# ACTIVITY 2, *continued*

- **Select a particular food item and the various forms of that food you will be serving. i.e. apple, applesauce, apple pie, dried apples, apple juice, etc.**

- **Have paper products and/or plastic utensils available in sufficient quantity for taste testing, if needed.**

- **Duplicate Worksheet N, "Food Evaluation Forms" in sufficient quantity for those students who will evaluate the food to complete and return.**

- **Prepare foods according to the foods appearing on Worksheet M, "Try A New Taste" or prepare a similar worksheet where your food item appears in the recipe.**

- **Prepare bite size samples of the food item(s) as they appear on the handout.**

- **Duplicate Worksheet M, "Try A New Taste" or a similar product in sufficient quantity for students to take home.**

- Using one food only, have students taste the various forms in which that food may be served. Have students talk about where the food product comes from and how the various forms of the food are made.

  — Have students complete "Food Evaluation Form", Worksheet N, for the food item(s) tasted. Discuss with students how the taste of foods change according to the way they are prepared and/or presented.

- Point out that food changes taste when it is combined with other food such as in the recipes in Worksheet M, or as prepared on your special recipe handout.

- Distribute Worksheet M, "Try A New Taste" and/or prepare similar worksheets of food testing items. Students can take home the recipe(s) of the new food or food items they have tasted.

# ACTIVITY 2, *continued*

- Have paper products and/or plastic utensils available in sufficient quantity for taste testing, if needed.
- Prepare bite size samples of the food item as it appears or will appear on the menu.

- Ask students to participate in a taste testing panel at various times throughout the year. Refer to *Nutrition Comes Alive in the Cafeteria* Resource Section, for taste panel methods. Prepare taste size portions of a new food or recipe that could be tasted by all students. The samples may be available on the serving line or directly distributed to the students by a food-service worker, student from a nutrition committee, or by students from one classroom.

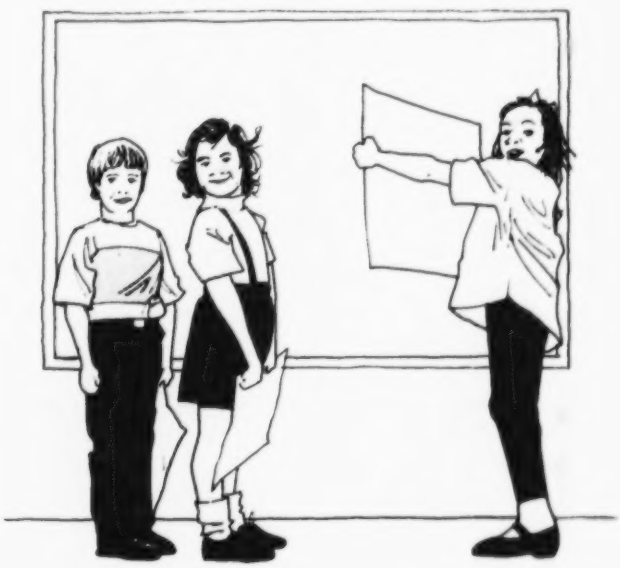
- Duplicate Worksheet N, "Food Evaluation Form" in sufficient quantity.

—Pass out and collect complete Worksheet N, "Food Evaluation" from students. This could be done in the cafeteria or classroom.

—Evaluate the results and post them in a prominent place in the cafeteria. If results are positive, indicate the item as a "Student's Choice Item" on future menus.

- Have paper products and/or plastic utensils available in sufficient quantity for taste testing, if needed.
- Prepare foods according to the foods appearing on your menu or new menu items you wish to incorporation into the menu offering.

- Offer taste size test portions of new foods to students on the cafeteria line. Check student reaction and acceptability.



- Poster board, art material.

- Before serving the new food as a menu item, work with students to conduct an advertising campaign to promote the product. Refer to the *Nutrition Comes Alive in the Cafeteria,* Resource section, for advertising methods. Such advertising methods could include statements students may quote from other students such as "John Jones of 3rd grade says 'Boy, it sure tastes GOOD.'" or "Mary Allen said 'Wait till my brother tastes this!'"

# ACTIVITY 2, *continued*

- Make a "mystery box." Using a large oatmeal box or coffee can without the top, attach fabric to extend above the open end. The top of fabric should have a string or elastic edge to make the opening adjustable. A stretch sock works well if you cut off and discard the bottom portion of the sock. Using masking tape, stretch the top part of the sock in place and tape down. If preferred, use a paper bag and call it a "mystery bag."

- Blindfold.

- Coffee cans with opaque lids.

- Food items with distinctive shapes.

- Food items with distinctive feels and smells.

- Select **one** food to put in the "mystery box" or "bag." Foods might be celery, rice, bread, peach, carrot, potato, pea, etc. Have each student reach into the box and feel the food. A good example is a red pepper in the box or bag. Students may through feel recognized the item as being a pepper, they generally don't associate the color with the food item. You will also find that some students may have never seen or tasted a red pepper.

- ***To identify foods through touch:***

— QUESTIONS FOR CONVERSATION
  - What is the shape?
  - Is it hard or soft? bumpy or smooth?
  - What color do you think it is?
  - Can you describe its taste?
  - What do you think it is?
  - Have you ever tasted the item before?

— You might want to set the "mystery box" or "bag" in a corner of the room where students can work individually or in small groups.

- ***To identify foods through smell:***

— Our tongues are very important for taste, but the smell of food is also an important factor in taste.

— Arrange slices of food with distinctive odors such as apples, oranges, onions, garlic, celery, bananas, pineapple, etc. on small individual plates. Have the students wear blindfolds and see how many of the foods they can identify through smell.

— A variation of this teaching method would be to set up a "smelling station" in a corner of the room. Place samples of foods in coffee cans with opaque lids. Punch small holes in the lids so that the students can smell and try to identify the hidden foods. Have students develop or use questions for conversation similar to those noted above.

ACTIVITY PREPARATION

# ACTIVITY 2, *continued*

- Prepare a bowl of fruit that can be used in the classroom or cafeteria.

- *To identify foods through sight:*

  — Have students recite the names of the food items.

  — Have students examine each food item for color, shape and size.

  — Have students match food items with the same colors, shapes and/or sizes of other foods.

- Have paper products and/or plastic utensils available in sufficient quantity for taste testing, if needed.

- Prepare bite size pieces of a variety of foods that can be tasted in the classroom. Be sure to have sufficient quantities so all students can taste.

- 3x5 Index Cards.

- *To identify foods through taste:*

  — For Reading Students:

  • Prepare 3x5 cards with a characteristic printed on each card. Certain characteristics you may want to consider are listed below.

  Using the 3x5 cards, have students taste food and assign one or more characteristic(s) to that food.

  Individual students may be assigned a specific food, work with other students to taste and agree or disagree with the characteristic(s), or work as an entire class tasting the same item and jointly deciding on the characteristic(s).

  — For Non-Reading Student:

• Explain what characteristics are. That we all have characteristics. It is what identifies each of us. Explain to students that food also has characteristics. Some types of characteristics are listed below.

Choose ***only*** one or two different characteristics of food and use hand signals to indicate that characteristics. Some example, might be to clap once for a smooth food, lift right hand for a hard food, lift left hand for a sweet food, lift both hands for a crispy food, clap twice for a solid food, and put hand on hips for a dry food.You could further reinforce this activity by giving the students samples of food for them to indicate the characteristics using the hand signals. For tasting individual food such as carrots, you could be using the "lift right hand" and "clap twice" since carrots could have more than one characteristic.

# ACTIVITY 2, *continued*

- Examples of food and their characteristic(s) that may be tasted are as follow:

| *Characteristic* | *Food* |
|---|---|
| sweet | orange |
| sour | lemon, grapefruit |
| bitter | unsweetened cocoa powder |
| smooth | peanut butter, yogurt |
| chewy | raisin, kidney bean |
| dry | cracker, toast |
| crunchy | celery, carrot |
| crispy | apple, cucumber, lettuce |
| juicy | watermelon,orange |
| lumpy | oatmeal, rice |
| creamy | pudding |
| cold | milk |
| hot | soup |
| solid | cheese |
| soft | banana, tomato |
| hard | carrot, pear |
| bland | potato, turnip |

*Note that some items have more than one characteristic, i.e. a carrot may be hard, crispy, solid, etc.*

- Duplicate school lunch menus in sufficient quantities to distribute to students.

- Have students review a school lunch menu and point out foods with different characteristics.

  You could also use the activity found in Exercise 1, Worksheet L, "Menu Designing Puzzle".

  Point out to students that a meal of all soft foods or all crispy foods is not as appealing as a meal with different textures and shapes.

  — You could also use this time to explain that colors are also important to making a meal interesting.

- Have students develop a menu that mixes foods of different characteristics and indicate the characteristic on the menu; i.e. crispy lettuce, crunchy carrots, ice cold milk, etc. Be sure to use the suggestions in a menu at some future date, indicating on the menu, the class that developed it.

# NOTES ON ACTIVITY 2

**ORANGE-FLAVORED CARROTS**
4 servings, 1/2 cup each

| | |
|---|---|
| Carrot, sliced | 3 cups |
| Onion, chopped | 2 tablespoons |
| Boiling water | 1 cup |
| Frozen orange juice concentrated | 2 tablespoons |
| Lemon juice | 1 teaspoon |

1. Add carrot and onion to boiling water. Cover and boil gently until carrot slices are tender, about 20 minutes. Drain; save 2 tablespoons of liquid.
2. Add orange juice concentrate, lemon juice, and cooking liquid to drained vegetables; stir gently. Reheat to serving temperature.

**HERB BROCCOLI**
4 Servings, about 1/2 cup each

| | |
|---|---|
| Fresh broccoli spear | 3/4 pound |
| Onion, finely chopped | 2 teaspoons |
| Marjoram leaves | 1/2 teaspoon |
| Basil leaves | 1/2 teaspoon |
| Boiling water | 3/4 cup |
| Lemon wedges | 4 |

1. Wash and trim broccoli split thick stems.
2. Add broccoli,onion, and herbs to boiling water.
3. Cover and boil gently until broccoli is tender, about 10 minutes. Drain.
4. Serve with lemon wedge garnish.

NOTE: A 10-ounce package of frozen broccoli spears may be used in place of fresh broccoli; cook frozen broccoli about 6 minutes. Makes 4 servings; 1/3 cup each.

**EGGPLANT-TOMATO COMBO**
4 servings, 1/2 cup each

| | |
|---|---|
| Garlic, minced | 1 clove |
| Onion, sliced | 1/3 cup |
| Green pepper strips | 1/3 cup |
| Margarine | 2 teaspoon |
| Tomatoes | 8-ounce can |
| Eggplant, pared, sliced | 3 cups |
| Oregano leaves | 1/4 teaspoon |
| Basil leaves | 1/4 teaspoon |
| Pepper | dash |

1. Cook garlic, onion, and green pepper in margarine in large frying pan until onion is clear.
2. Break up large pieces of tomatoes.
3. Add tomatoes, eggplant, and seasonings to onion mixture.
4. Cover and boil gently until vegetables are tender and most of the liquid has evaporated, about 15 minutes. Stir occasionally during cooking.

**DILLED ZUCCHINI SQUASH**
4 servings, 1/2 cup each

| | |
|---|---|
| Zucchini squash | 1 pound |
| Onion, chopped | 1/3 cup |
| Boiling water | 1/4 cup |
| Paprika | 1/2 teaspoon |
| Dill weed | 1/2 teaspoon |
| Vinegar | 1 tablespoon |

1. Remove ends from squash; cut into strips or slices.
2. Add squash and onion to boiling water. Cover and boil gently until tender, about 10 minutes. Drain.
3. Add paprika, dill weed, and vinegar. Stir gently.

WORKSHEET N

# FOOD TASTING EVALUATION FORM

HOW DO YOU FEEL ABOUT THE FOOD YOU TASTED TODAY?

| WHAT FOODS HAVE YOU TASTED TODAY? | HAVE YOU TRIED THIS FOOD BEFORE | | THIS FOOD IS: | | | |
|---|---|---|---|---|---|---|
| | YES | NO | VERY GOOD | GOOD | OKAY | NOT GOOD |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

# ACTIVITY 3

**PROBLEM:** How can I help students recognize that our food comes from plants and animals?

**COOPERATIVE LEARNING EXPERIENCE:** Plants and animals provide us with food.

**INTRODUCTION:** Foods come from two sources--plant and animal. Plant food are vegetables, fruits, grains, nuts, certain fats like margarines and oils. Animal foods are eggs, dairy products, meat, fish, foul, bird and even reptile. Nutrients are found in all foods we eat, but their amounts vary. For that reason a healthy diet must be balanced with all the nutrients necessary to maintain good health. Most diets are composed of a variety of foods from various food sources. People may each special diets, but the nutrients must be present in sufficient quantities. A vegetarian diet is composed of plant foods. There are plant foods such as soy bean, bean, tofu, etc. that are high in protein and are substituted in the diet for meat. Other diets for health or religious reasons, substitute items of equal or greater nutritional value to those excluded in the diet.

ENCOURAGE CLASSROOM TEACHERS TO USE CORRESPONDING TEACHER ACTIVITIES FOUND IN *NUTRITION COMES ALIVE:*

Grade 1: Activities 9, 16 and Worksheet C

ACTIVITY PREPARATION

# ACTIVITY 3, *continued*

- Duplicate Worksheet O, "Where Does Food Come From" in sufficient quantity for distribution to the students.

- Using the current school lunch menu, randomly star various items. Duplicate these in sufficient quantity for distribution to those students who will take part in the contest.

- Drawing/poster paper, crayons and/or paints.

- Review Contest development and guidelines found in the *Nutrition Comes Alive in the Cafeteria*, Resource material. Develop prizes, participation, dates, how winners will be determined, etc. Prepare announcements detailing the contest.

— Introduce the contest using Worksheet O, "Where Does Food Come From." This worksheet can be used as a teaching tool to reinforce the lesson(s) indicated in the Teacher Advance Preparation Section above.

- Distribute menus with starred items to students. Hold a contest for the participants to determine whether the starred items are from plants or animals. The students with the most correct answers would be awarded prizes.

- A contest could also be made by using the starred items as a base for the students to develop riddles. Some examples of riddles are:

I am a large bird
Many people stuff and eat me for Thanksgiving dinner
What am I? (turkey)

I am a plant food that is bright!
In fact, if you put me down, I can be a smile.
If you step on me when I "peal" out I can really put you on the skids.
What am I? (banana)

Have students guess and identify the menu items.

— Students could develop riddles for various menu items and place these on poster paper. These could be places in the cafeteria for students to guess the food item.

# ACTIVITY 3, *continued*

- Old magazines, pictures.

- Decorate the cafeteria with pictures of plants and animals and the foods associated with each. For example, a picture of a wheat field could also show pictures of bread, rolls, etc., while a picture of a cow could show milk, cheese, hamburg, steak etc.

- Prepare a list of different animals.

- Have students identify the sources of food for the animals. (Hay for horses, grass for cows, sheep and oxen, insects/worms for birds, etc.)

- Duplicate Worksheet P, "Exploring A Farm" in sufficient quantity for distribution to students.

- Have students use Worksheet P to color, cut out and paste animals where they can be found on a farm.

- 3x5 index cards with the name of food items printed on the cards or pictures of food items pasted on them.

- Pass out cards to students. Ask students to:

  — Identify the food item(i.e.apple, beef, chicken)
  — Identify the food group of the item (vegetable,etc)
  — Identify the source of the food (animal or plant)
  — Identify how food is prepared (i.e. baked,grilled)
  — Identify what other food item compliments the food item. This could be;
    - fresh apple-cheese (hard food with soft)
    - baked apple-oat cookie (hot food with cold)
    - grilled hamburger-bun (dark color with light)
    - barbecue chicken-tossed salad (hot, red, soft item with cold, green, crisp food)

  Have students review school lunch and/or breakfast menus to see how the contrast between plant and animal foods, color of foods, preparation methods used and texture of foods are used.

# NOTES ON ACTIVITY 3

# WHERE DOES FOOD COME FROM?

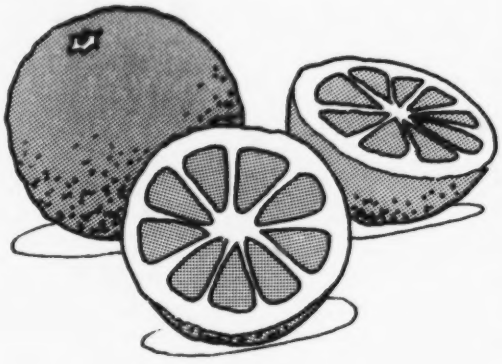
Name_____

Square ☐ all animal foods.

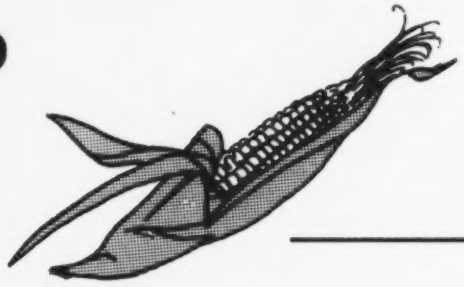
Circle ◯ all plant foods.

Write the name of each food. Color.

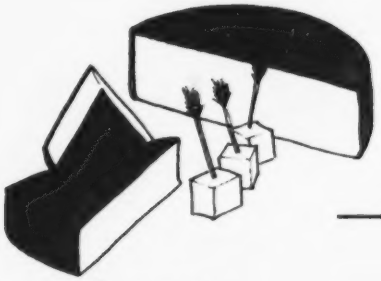
milk _____



orange _____

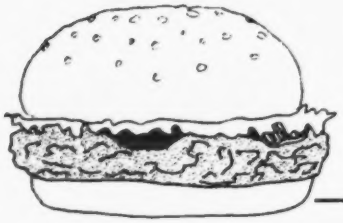


corn _____



cheese _____

broccoli _____



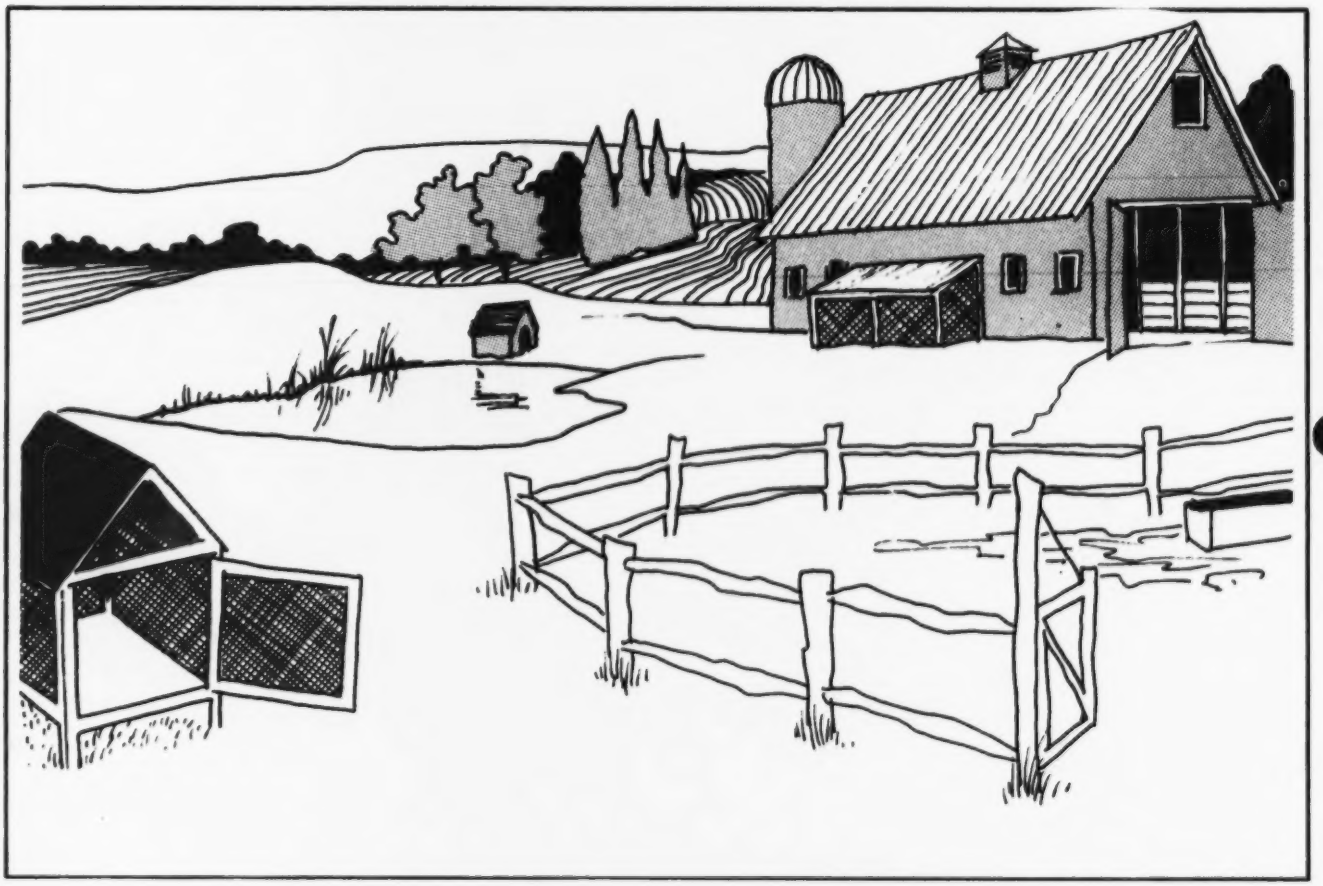
hamburger _____

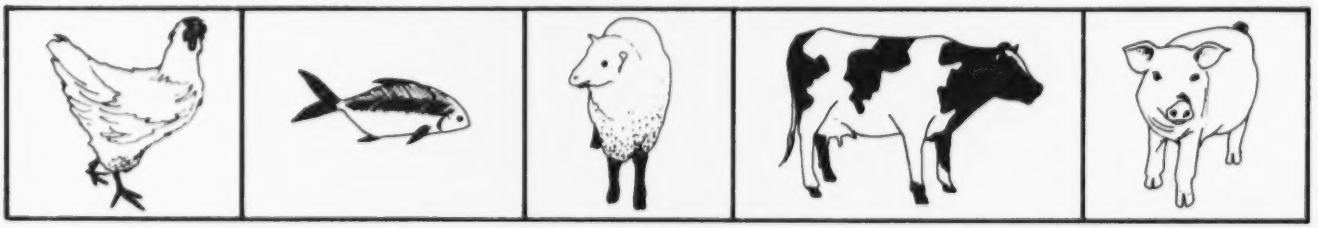
WORKSHEET P

# EXPLORING A FARM

**Name**_____

CUT AND PASTE THESE ANIMALS WHERE YOU THINK THEY LIVE.
CAN YOU NAME SOME FOODS WE GET FROM THESE ANIMALS?





**chicken** **fish** **lamb** **cow** **pig**

# ACTIVITY 4

**PROBLEM:** How do I help students recognize the source of and encourage them to include more calcium in their daily diet?

**COOPERATIVE LEARNING EXPERIENCE:** Calcium is needed for growth and to prevent osteoporosis -- a disease that makes bones weak and fragile in later years.

**INTRODUCTION:** How our body uses food is called the science of NUTRITION. Foods provide our bodies with NUTRIENTS. The process used by our bodies to convert the food in our stomachs into its nutrient value is called DIGESTION. Nutrients are absorbed and used by the body to repair and build CELLS. Nutrients are the "fuel" our body uses to keep it running like a smooth machine. When our bodies run properly, we are healthy, grow at a rate that is normal for each of us, and have energy for work and play. Calcium is one nutrient that is needed by the body for healthy bones and teeth. This need for calcium has been linked to help in hypertension, osteoporosis and dental health.

These activities may be adapted for use with any vitamin or mineral the student may be studying in the classroom. Work with the teacher to incorporate any of these activities to help the student's learn more about good nutrition.

ENCOURAGE CLASSROOM TEACHERS TO USE CORRESPONDING TEACHER ACTIVITIES FOUND IN *NUTRITION COMES ALIVE*

Grade 1: Activities 18, 19, 20, 23 and Worksheet 1

Grade 3: Activities 41, 42, 43

# ACTIVITY 4, *continued*

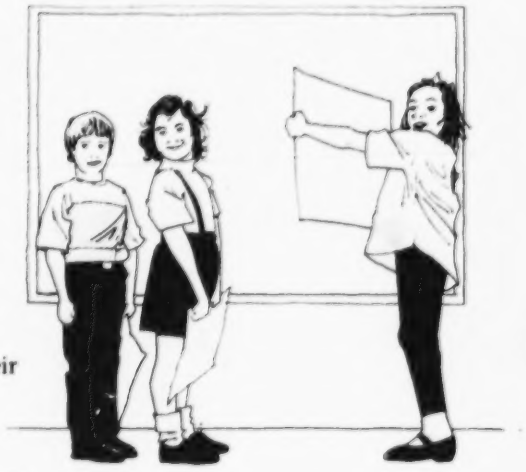
- Duplicate Worksheet T, "Calcium for Healthy Bones and Teeth" in sufficient quantities for class distribution.

- Review with students what calcium is, why we need calcium and what foods are good sources of calcium. Check your resource guide and Worksheet T for ideas.

- Duplicate Worksheet T, "Calcium for Healthy Bones and Teeth" in sufficient quantities for distribution to staff.

- Distribute information concerning calcium found in the Resource material to the food-service staff. This will help them answer any questions students may have concerning the role of calcium in the diet.

- Conduct a poster contest. REMEMBER TO CLEARLY STATE CONTEST RULES! (refer to the *Nutrition Comes Alive in the Cafeteria* Resource material.) Posters can be developed by the students to show foods high in calcium, sources of calcium, comparison between people who do and those who do not lack calcium in their diet, or any other idea that will promote the students knowledge of calcium and it's effect on their health.



- Have students bring in old magazines from home.

- Be sure drawing/poster paper, crayons and/or paints are available in sufficient quantity for all students.

— Have students use old magazines to cut out pictures of foods that are good sources of calcium. These pictures can be pasted on drawing/poster paper and displayed in the cafeteria, or on various bulletin boards in the school.

— Pictures could also be cut out, a hole punched in the top center of each item, and the pictures either strung as a garland or tied on wire coat hangers to make a mobile.

- Review and distribute Worksheet Q, "Planning a Campaign" to students and staff.

- Highlight and distribute a monthly menu to show foods that are rich in calcium.

- Using Worksheet Q, have students launch a Calcium Campaign. Design a "Calcium Week" where each day a menu item, rich in calcium, will be featured. Such items could include chili (kidney beans), grilled cheese, broccoli, pudding, split pea or lentil soup, etc.

ACTIVITY PREPARATION

# ACTIVITY 4, *continued*

- Duplicate Worksheet S, "Dear Parent" letter, Spanish version, in sufficient quantities for class distribution.

- Duplicate Worksheet R, "Dear Parent" letter, English version, in sufficient quantities for class distribution.

- Menus that are sent home to the parents could include Worksheets R, S and T, alone or in combination. These would help parents understand the importance of calcium in their child's growth, for their adult life and the important role you, a member of the food service staff of your school, have taken to promote proper nutrition.

# NOTES ON ACTIVITY 4

# WORKSHEET Q

**Plan an ad campaign.**

Plan an ad campaign for a nutritious food to reach the whole school! The campaign should try to influence students' choices when they go down the lunchroom cafeteria line.

**How to begin.**

First, the students must choose a nutritious food item for an ad campaign. What might they choose? The choice should be a food item that is served in the cafeteria, but not selected by many students at the time of meal service. The food item could also be a food item that incurs a lot of plate waste. The students should decide what food they will direct their efforts to--what food items would students like to promote?

**What's next?**

Have students do a little market research. Prior to the start of the campaign, but on a day when the selected food item is served or available for tasting, have students try these things in the cafeteria:

- Count how many students go through the line.
- Count how many students select the campaign food, if a choice is available.
- Stand by the trash cans and count how many servings of the campaign food are thrown away.
- Interview students as to why they are throwing the campaign food item away.

Have the students keep careful records. They may even want to record their interviews on tape or work with the Audio Visual class to produce a commercial to use curing the campaign. The students should save all data to use later for and evaluation of the campaign.

**Develop an image.**

With this information, the class is now ready to figure out a campaign slogan or theme to enhance the image of the campaign food item.

***EXAMPLE;***

Suppose the campaign food item that the students choose is whole wheat bread. After the research, the students find out that the reasons students are throwing away or did not select the whole wheat item are:

- They have never tasted it before.
- They were not use to eating it.
- They did not like the way it looked.

**How can you advertise the item?**

Try to get those students interested in whole wheat bread to plan a campaign that would give other students information about the food item and encourage them to try it.

**Develop an advertising theme.**

An advertising theme might be:

- that whole wheat bread tastes good! It has important vitamins, minerals and fiber!
- to compare the differences between whole wheat bread and white bread. Note that white bread needs enrichment--whole bread is "natural".

**Develop product information.**

Determine what product information you want the students to distribute in their campaign that accompanies the ad theme.

# WORKSHEET R

Dear Parent,

In class we have been talking about the importance of eating foods high in calcium, an essential nutrient. You have probably heard that growing children need to drink milk, a good source of calcium, to build strong bones and teeth. Unfortunately, many adults mistakenly believe that they no longer need food sources of calcium. This is not true. Low intakes of calcium through the adult years may contribute to osteoporosis, a disease characterized by weak and fragile bones and seen most often in postmenopausal women. Since calcium is essential for all people, it is wise for children to develop habits of eating calcium-rich foods that will last throughout life.

We continue to need sources of calcium because our bones are not as solid or "permanent" as they might appear. Rather, they are in a constant state of change, serving as "banks" where calcium is deposited and withdrawn. Although most of the body's calcium is in the bones, 1 percent circulates in the blood and is vital for such functions as contraction of muscles, conduction of nerve impulses, and clotting of blood. When this small but critical amount falls below a certain concentration the bones release some of their calcium. To help maintain and build strong bones, it is recommended that children have at least three and adults have at least two servings of calcium-rich foods each day.

Some people may find this difficult because they do not like or tolerate milk. Others may not want to consume the fat that many dairy products contain. The following chart shows several foods that will produce as much calcium as one cup of milk. Skim and low fat dairy products provide the same amount of calcium with much less fat.

| | | |
|---|---|---|
| or | **Cheddar cheese** | 1 1/2 oz. |
| or | **Cottage cheese** | 2 cup |
| or | **Custard** | 1 cup |
| or | **Greens (collards, kale mustard, turnip)** | 1 cup |
| or | **Homemade macaroni & cheese** | 3/4 cup |
| or | **Ice cream** | 1 1/2 cup |
| or | **Salmon (with bones)** | 5 oz |
| or | **Sardines** | 6-7 medium |
| or | **Soybeans (cooked)** | 2 1/2 cup |
| or | **Swiss cheese** | 1 1/4 oz |
| or | **Tofu** | 8 oz |
| or | **Yogurt** | 1 cup |

TO INCREASE THE CALCIUM IN YOUR FAMILY'S DIET, TRY THE FOLLOWING

- Drink skim or low fat milk for meals and snacks.
- Eat vegetables such as broccoli and leafy greens.
- Add dried beans, peas or lentils to soups and casseroles.
- Eat sardines, salmon and smelt, bones and all.
- Add nonfat dried milk to soups, casseroles, sauces and meat loafs.
- Substitute low fat yogurt for sour cream in sauces and dips.
- Encourage children to have milk on cereal rather than eating it dry.
- Allow children to make their own milk shakes and coolers.

(Signed)
School Lunch Manager

# WORKSHEET S

Estimado Padre:

En el salón de clases hemos estado conversando sobre la importancia de comer alimentos ricos en calcio, un nutriente esencial. Usted probablemente ha escuchado que los niños en etapa de crecimiento necesitan tomar leche, una fuente buena de calcio, para formar huesos y dientes fuertes. Desafortunadamente, muchos adultos equivocadamente piensan que ya no necesitan fuentes alimentarias de calcio. Esto no es cierto. Una ingestión pobre de calcio a través de los años de adulto pueden contribuir a la osteoporosis, una enfermedad caracterizada por huesos débiles y frágiles y que se ve más frecuentemente en mujeres en la época de la posmenopausa. Puesto que el calcio es esencial para todas las personas, es sabio que los niños desarrollen hábitos de comer alimentos ricos en calcio que durarán por toda la vida.

Continuamos necesitando fuestes de calcio porque nuestros huesos no son tan sólidos o "permanentes" como aparentan ser. Más bien, éstos están en un estado de cambio constante, sirviendo de "bancos" donde el calcio es depositado y retirado. Aunque la mayoria del calcio del cuerpo esta en los huesos, 1 porciento circula en la sangre y es vital para funciones tales como la contracción de los músculos, transmisión de impulsos nerviosos y coagulación de la sangre. Cuando esta pequeña pero crítica cantidad cae por debajo de cierto nivel los huesos sueltan parte de su calcio. Para ayudar a mantener y formar huesos fuertes se recomienda que los niños consuman por lo menos tres y los adultos dos porciones diarias de alimentos ricos en calcio.

Algunas personas podrian encontrar ésto dificil porque no les gusta o no pueden tolerar la leche. Puede que otros no quieran consumir la grasa que muchos productos lácteos contienen. La siguiente gráfica muestra varios alimentos que proveen tanto calcio como un vaso de leche. Productos lácteos sin grasa y bajos en grasa proveen la misma cantidad de calcio con mucho menos grasa.

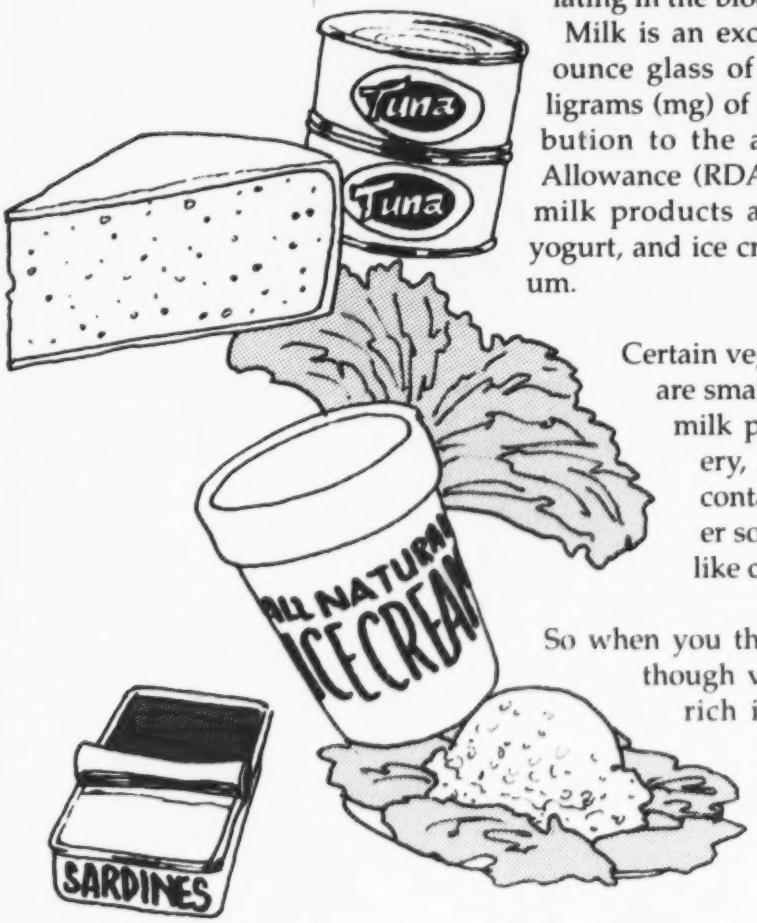
or **Queso Cheddar** 1 1/2 oz.
or **Requesón** 2 tazas
or **Natilla** 1 taza
or **Verdes (col rizada, acelga, hojas de mostaza y nabo)** 1 taza
or **Macarrones con queso hecho en casa** 3/4 taza
or **Mantecado** 1 1/2 taza
or **Salmón (sin huesos)** 5 oz
or **Sardinas** 6-7 medianas
or **Soya (cocidas)** 2 1/2 tazascup
or **Queso suizo** 1 1/4 oz
or **Tofu** 8 oz
or **Yogurt** 1 taza

**PARA AUMENTAR EL CALCIO EN LA DIETA DE SU FAMILIA, PRUEBE LAS SIGUIENTES IDEAS.**

- Tome leche sin grasa o baja en grasa con las comidas y mediendas.
- Coma hortalizas tales como el brécol y hojas verdes.
- Agregue habichuelas o frijoles secos, guisantes o lentejas a las sopas y cacerolas.
- Coma sardinas, salmón y esperlán con todo y huesos.
- Agregue leche sin grasa en polvo a las sopas, cacerolas, salsas, rollos de carne y albóndigas.
- En vez de crema agria use yogurt bajo en grasa en salsas y otros platos.
- Anime a los niños a echarle leche al cereal en vez de comérselo seco.
- Deje que los niños proparen sus propias batidas y refrescos de.

(Signed School Lunch Manager)

Calcium is one of the most tightly regulated trace minerals in the body. Most of the body's calcium is found in bones and teeth. It is also found in our blood, although the amount of calcium in the blood is very small compared with that present in the skeleton. One function of the calcium circulating in the blood is stimulation of muscle and nerves.




Milk is an excellent source of dietary calcium. An 8-ounce glass of milk provides approximately 288 milligrams (mg) of calcium. This makes a significant contribution to the average adult Recommended Dietary Allowance (RDA) of 800 mg of calcium per day. Many milk products are also rich in this nutrient. Cheese, yogurt, and ice cream help meet our body's need for calcium.

Certain vegetables contain calcium, but the amounts are small in relation to that provided by milk and milk products. Broccoli, cabbage, spinach, celery, and brussels sprouts are a few calcium-containing vegetables. Dried fruits are another source of calcium, and so are some shellfish like clams, crabs, and oysters.

So when you think calcium, first think milk. And even though vegetables and other sources may be less rich in calcium, they still add to our daily intake. Every little bit helps!

# ACTIVITY 5

**PROBLEM:** How can I encourage students to accept grain products on the menu, and in particular, those foods made with whole grains?

**COOPERATIVE LEARNING EXPERIENCE:** There are many kinds of nutritious foods, some are more nutritious than others.

**INTRODUCTION:** Carbohydrate foods provide energy and are a major portion of our diet. A major source of carbohydrates is found in the grain food group. For Americans, wheat is the staple cereal grain. Many products are made from wheat and, therefore, good sources of energy for our bodies.

ENCOURAGE CLASSROOM TEACHERS TO USE CORRESPONDING TEACHER ACTIVITIES FOUND IN *NUTRITION COMES ALIVE*

Grade 1: Activity 12

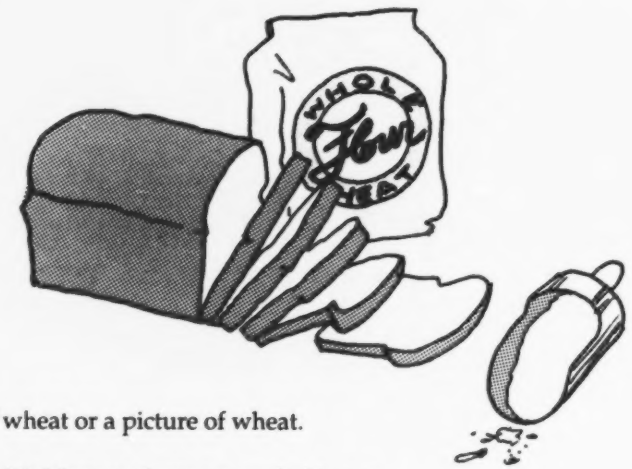
ACTIVITY PREPARATION

# ACTIVITY 5, *continued*

- Duplicate Worksheet V, "Whole Grain Power" to demonstrate to students the composition of grain. You may prepare the material ahead of time or bring the materials to class for the students to construct.

  —Pieces of felt or poster paper in the following colors; brown, gold and white. See Worksheet V for details.

- Use Worksheet V, "Whole Grain Power" to demonstrate to students the composition of grain. Students could also use these instructions to prepare grain from construction or poster paper.




- Obtain a stalk of wheat from a farmer, florist or cut out a picture of a stalk of wheat or wheat field.

- Show the class a stalk of wheat or a picture of wheat.

  — **Can anyone identify it?** Most students are probably not familiar with wheat plants.

- A small amount of flour.

  — **What does wheat have to do with flour?** You can explain that the flour used to make the grain foods come from the seeds of the wheat plant. The seeds are harvested by a combine, which separates the grain (seeds) from the straw. Then the seeds are milled or ground into flour.

  — **Can students name any other foods that are made from wheat flour?** Answers may include pizza crust, macaroni, hamburger bun, bread and cereal.

  — Have students identify the nutrients found in grain products.

- Poster board, crayons, large marking pens, and an assortment of grains. Some could be wheat grain, pasta products, rice, barley, rye, oats, etc.

- Have students create a display using different grains.

  — Display could also be made to show those products made from grain such as bread, rolls, biscuits, pasta, taco shells, etc.

- A selection of breads, crackers or cereals prepared with different grains.

- Have students sample various products made with different grain.

ACTIVITY PREPARATION

# ACTIVITY 5, *continued*

- Arrange a section of the cafeteria to demonstrate pizza making.
- Arrange a visit to a local bakery.
- Contact a baker who can come to the school to speak to the students.

- If your school cafeteria prepares its own baked goods, you can invite a class or group of students to visit your bakery area to observe bread or other baked goods being prepared. You or a staff member could show how traditional bread is made while encouraging the use of whole grains in the demonstration. Students could also watch whole grain pizza dough being made.

— If your school does not prepare its own baked goods, arrange for the students to visit another school, visit a local bakery or invite a baker to the cafeteria to speak to students.

Ask students:

— What they saw;

— What impressed them about the demonstration

— How whole grain products differ from regular products such as white rice vs. brown rice or products made with all-purpose flour (color, texture, vitamins, etc.)

— Discuss why whole grain products are nutritionally more beneficial then those made with all-purpose flour.

- Duplicate Worksheet U, "Whole Grain Cookery" in sufficient quantity for distribution to students.
- School Lunch Menu

- Distribute Worksheet U, "Whole Grain Cookery" to students. These may be taken home for the adult member of the family.
- Conduct a class survey. Have students name the carbohydrate foods they ate for breakfast and/or lunch.

ACTIVITY PREPARATION

# ACTIVITY 5, *continued*

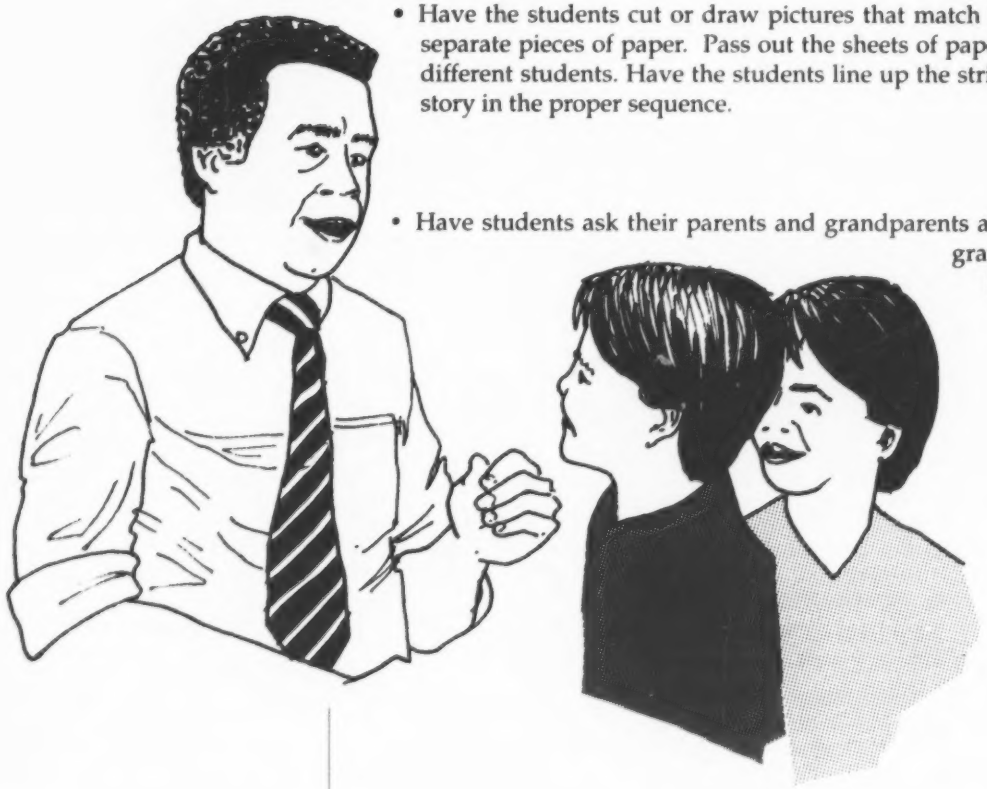
- 7 small sheets of note size paper or 3x5 cards.
- Old magazines and drawing material.

- Write on separate slips of paper or 3x5 cards, the steps that are used in making bread and eating bread.

1. The farmer plants a grain of wheat.
2. The wheat grain grows up yellow and ripe.
3. The farmer cuts the wheat (harvest) and threshed it.
4. The farmer takes the wheat to the mill where the miller grinds the grain into flour.
5. The baker makes bread with the flour.
6. The baker delivers his bread to the school.
7. The food service staff serves the bread to the students.

- Have the students cut or draw pictures that match the words and paste them on separate pieces of paper. Pass out the sheets of paper or cards and the pictures to different students. Have the students line up the strips so that the pictures tell the story in the proper sequence.

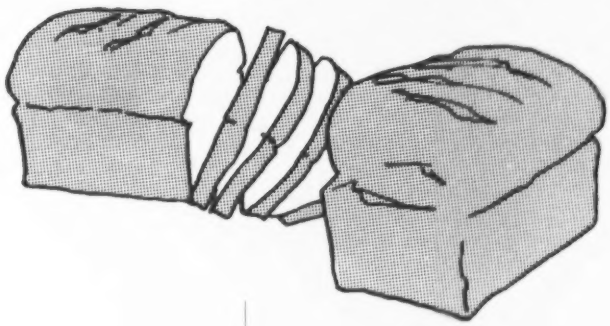
- Have students ask their parents and grandparents about the products made from grains that they ate as children. Discuss how the foods are different from or similar to foods available today.



Whole grain foods like brown rice, whole wheat flour, and whole wheat pasta behave differently from the grains you may be used to, such as regular rice and all-purpose flour, because whole grains are less processed. All or part of the bran layer of the grain is still present in whole grain products. The presence of this bran layer makes whole grains richer in nutrients and fiber, but it also means that more moisture and a longer cooking time are needed in order to penetrate the layer. Less processing also makes whole grains more susceptible to spoilage.

Baked products made with whole wheat flour seem to turn out best when some combination of whole wheat and regular flour is used. More moisture may have to be added to the batter or dough to ensure that a whole wheat baked good doesn't dry out.

Brown rice and whole wheat pasta often require more moisture and a longer cooking time than regular rice or pasta. Brown rice may need to be rinsed before it is cooked. Experiment with the amount of water and length of time needed to prepare these whole grains. When you are satisfied with the product, record the preparation information on recipe cards. If a new brand of whole grain product is purchased, you may need to adjust the recipe. These products can vary!



Introduce whole grains into the menus gradually. Prepare a rice dish with half regular rice and half brown rice. Try serving pizza with whole wheat crust. Whole grains can contribute nutrients and fiber, as well as variety, to school lunches!

# Outline and Instructions

Cut large felt pieces from this outline.

| | |
|---|---|
| **bran** | Cut a large brown piece for the outside layer. |
| **germ** | Cut a small gold piece for the second layer. |
| **endosperm or starch** | Cut a large outline out of white felt for the third, inside layer. |
| **B vitamins** | Cut 3 large and 3 small B's from brown felt; add to the white endosperm layer. |
| **Fe** | Cut the chemical symbol for iron from brown felt. |
| **Enriched** | Cut letters from brown felt. |

After assembling the layers, peel them back one at a time to explain the components. When you come to the whilte layer, explain that

**ENRICHED**

means to add these whole grain nutrients from the bran and germ back to white flour products. Show real grains, if possible, and compare layers.

# ACTIVITY 6

**PROBLEM:** How can I help students accept unfamiliar ethnic foods in their diet even though the foods may taste or appear different?

**COOPERATIVE LEARNING EXPERIENCE:** Food choices take place within the context of immediate family, social, and community groupings.

**INTRODUCTION:** If we are to appreciate the importance of nutrition for our health, we must understand that people eat food first, and, then, think about nutrition. We must appreciate that eating is a personal choice and that properly made choices of food can supply us with the nutrients necessary for good health. Food choices, even though they are unfamiliar to us, do supply nutrients to the body as long as they are eaten.

New York State has a rich historical background. Through ethnic influences people eat a great number of different kinds of food depending upon availability, acceptability and food traditions passed down through families for generations. A combination of societal, personal and cultural influences help to create a diversity in acceptable foods, and adaptation of ethnic foods and eating habits.

ENCOURAGE CLASSROOM TEACHERS TO USE CORRESPONDING TEACHER ACTIVITIES FOUND IN *NUTRITION COMES ALIVE*

| | |
|---|---|
| Grade 3: | Activities 8, 9, 10, 11, 12, 13<br>Worksheets J, K, L |
| Grade 4: | Activity 17 |
| Grade 6: | Activity 10 |

# ACTIVITY 6, *continued*

- Pictures from travel agencies of sights from around the world.
- Poster board crayons, paints, etc.
- Old magazines.
- Dairy Council Food Models.

- Plan with students to hold one day each month as "Around The World Day".
  - — The cafeteria can be decorated to promote the day.
  - — The menu can be planned to feature foods particular to one country.
  - — Students can be encouraged to provide entertainment, songs and music, particular to the people of that country.

  Have the students plan "a trip around the world" by making posters of foods that are associated with different countries. These can be centered around tourist pictures from travel agencies and used to decorate the cafeteria.

- Plan with cafeteria staff to prepare family size portions of ethnic foods they serve at home. Take samples and recipes of food items to class for students to sample. The food service worker could discuss what the food is made from, how it is prepared, what makes it different from other foods,etc. Children could sample the food and describe a food they have at home that is similar to it.

- Have normal serving sizes of different ethnic food dishes on plates. From plates, serve students a tasting size portion of the food.

- Discuss with students that foods are basically all the same. They come from the four major food groups but may be put into five food classifications. Discuss many foods are from the same food group but may be prepared differently in other parts of the world.
  - — Ask students to use the cereal/grain foods and name different kinds of bread. Whole wheat, rye, white, pita bread, Irish soda bread, French bread, Italian bread, corn bread, etc. are some of the different kinds.
  - — Discuss that some students may have a certain food 2 or 3 times a week, and other students never have tasted that food. Let students share their family's favorite food dish.

- Ethnic food recipes.

# ACTIVITY 6, *continued*

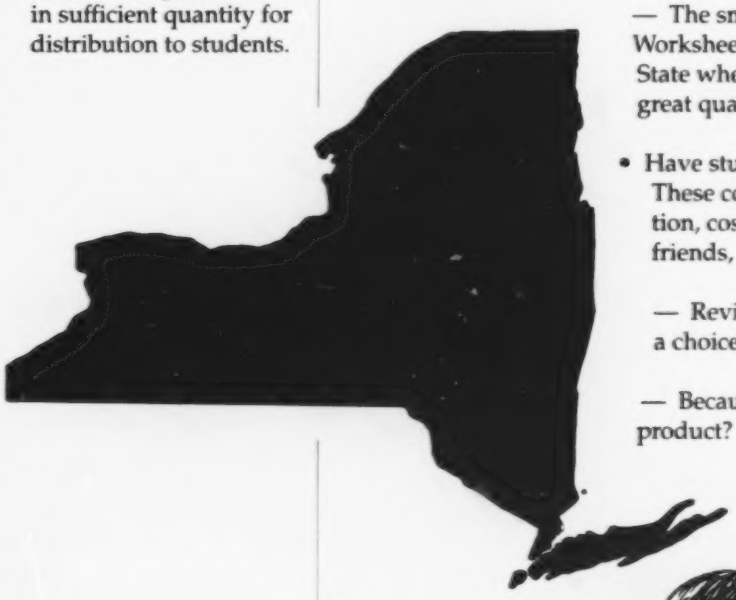
- Large map of New York State.

- Worksheet W," New York State Map" and Worksheet X, "New York State Agriculture Products" reproduced in sufficient quantity for distribution to students.

- Discuss with students that most foods served at home are also grown close to home. This means that the foods are fresher, have not lost nutrients with aging, and are generally cheaper to prepare.

— Have students decorate the classroom and/or the cafeteria with a large map of New York State. Surround the map with various food items produced in New York State.

Tape one end of the string on a food item and the other end of the string in the area of the map where the food item is grown.



— The small map, Worksheet W, could also be used with Worksheet X for students to identify the areas in New York State where particular agriculture products are produced in great quantities.

- Have students list the things that affect their food selections. These could be taste, color, convenience or ease of preparation, cost, advertising, availability, texture, health, parents, friends, familiar foods, etc.

— Review with students those items over which they have a choice to accept or not to accept. (Mostly snack items)

— Because it's on television, does that mean it is a good food product?

— Because I have never tasted it, does that mean it is a bad food item?

# NOTES ON ACTIVITY 6

# NEW YORK STATE




WORKSHEET W

# WORKSHEET X

New York has the second largest population of any state in the United States. It also has many large cities and many different industries. New York State also has a lot of agriculture. In early history, New York State farmers grew wheat. Today they grow many other products as well. The following list will tell you what some of these food products are. Using Worksheet W, "New York State Map", draw a line from the picture to the county or area where most of the products are grown.

| PRODUCT | GROWN |
|---|---|
| Dairy Products | Generally throughout NYS, but there are many dairy farms in Orange County and the area above it to St. Lawrence County. |
| Eggs | Widespread, but many farms in Sullivan County |
| Apple | Southern shore of Lake Ontario, Hudson Valley area--Columbia, Dutchess, Ulster, Orange, Lake Champlain Valley -- Clinton |
| Potatoes | Eastern Suffolk, Steuben |
| Grapes | Erie, Chautauqua, Yates, Steuben |
| Onions | Orange, Oswego, Orleans, Genesee, Madison |
| Snap Beans | Central New York, Western New York |
| Tart Cherries | Lake Ontario Region, Central Hudson Valley |
| Cabbage | Orleans, Monroe, Wayne, Ontario, Suffolk |
| Tomatoes | Western New York |
| **OTHER FOODS** | |
| Sweet Corn | Lower Hudson Valley, Genesee, Monroe, Madison, Ontario, Orleans, Erie, Yates |
| Lettuce | Orange, Oswego |
| Cauliflower | statewide |
| Celery | Orange, Oswego |
| Cucumbers | statewide |
| Beets | statewide |
| Carrots | statewide |
| Maple Syrup | Schoharie |
| Beans | statewide |

# ACTIVITY 7

**PROBLEM:** How do I help students recognize healthy snacks and help change their snack choices? How can I help students learn that snacking choices affect their health and the health of their teeth?

**COOPERATIVE LEARNING EXPERIENCE:** Some snack choices are better than others.

**INTRODUCTION:** Snacks are really "small meals" eaten to alleviate hunger until the normally scheduled three meals of breakfast, lunch or dinner, are eaten. Snacks should be chosen as carefully as the main meals. Snacks should never take the place of the main meal, but should complement and not interfere with it.

ENCOURAGE CLASSROOM TEACHERS TO USE CORRESPONDING TEACHER ACTIVITIES FOUND IN *NUTRITION COME ALIVE*

Grade 2: Activities 1, 13, 15 and Worksheets M, P

Grade 3: Activity 3 and Worksheet C.

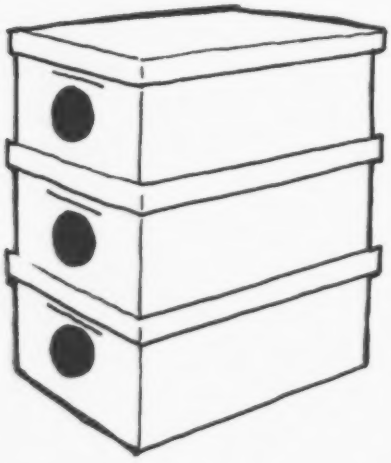
ACTIVITY PREPARATION

# ACTIVITY 7, *continued*

- Worksheet DD, "Name The Snacking Food" prepared in sufficient quantity for the students needs.

- Volunteer to be a speaker in the classroom and use the points of discussion to encourage student participation. This technique can also be used during a student tour of the cafeteria.

— Distribute Worksheet DD and have students discuss the best type snacking food for the activity. Remember to stress convenience, availability and access. (GORP or fresh fruit is easier to carry than milk or fruit juice when biking, etc.)



**DISCUSSION POINTS;**

- **What are snacks?** They are foods we eat between meals and at social events such as birthday parties etc. They are not meant to be meals.
- **Why do we snack?** To provide energy and nutrients that we may be missing at meal times and help relieve the hungry feeling we get between meals.
- **When do we snack?** Students could keep a log of their snack patterns.

- Old magazines to cut snack food pictures.
- Empty packages of snack foods.

• Cut out of magazines pictures of snack foods. Show pictures of snack foods to students. Explain that the foods in the pictures are often eaten as snacks.

— For a greater impact, use actual food packaging as the item might appear when purchased. Have students identify foods.

- Worksheets Z, AA and BB "Food Pictures" prepared in sufficient quantity for the students needs.
- Old magazines to cut snack food items from.
- Worksheet Y "Constructing a Food Stop Light".
- 3 shoe boxes (See Worksheet Y).

• Distribute or have students choose picture(s) of snacks from magazines. Students could also color and use Worksheets Z, AA and BB for examples of snacks.

— Using three covered shoe boxes, glue a large colored dot on the front of each. (see Worksheet Y) One dot should be red, one green and one yellow. Cut a slit in each box above the color circle. This slit should be large enough to allow pictures of "snacking foods" to pass through. Stack boxes to represent a street light.

— Have students deposit pictures of snacks in the proper box
- green means "GO", snacks may be eaten often
- yellow means "CAUTION", snacks may be eaten occasionally
- red means "STOP", think before you eat.

— Have students take turns putting their food pictures into the section of the stoplight where they think they belong. Discuss the merit of particular snack foods at this time.

# ACTIVITY 7, *continued*

- Snack foods cut into bite size pieces. Possible items listed across.
- Plastic knives to cut up food samples.
- Paper plates to put food samples on.

- Have a variety of snacks available for students to taste. These could be prepared before class and taken to class or, using plastic knives, have the students cut up the snacks in class. Use the same concept of the previous exercise in that the colors of a Red Light help us classify snacks. Examples could be;

**GREEN-** Pepper sticks (both red and green), carrot sticks, broccoli flowers, orange slices, cucumber slices, celery sticks, apple wedges (treated with lemon juice to prevent rusting), full strength fruit juices of different flavors.

**YELLOW-**Raisins, nuts, crackers, peanut butter, cookies, popcorn, french fries that were prepared by baking.

**RED-** Caramels/candies, sugar coated cereals, sodas, pop, fruit drinks, potato chips, pretzels, french fried potatoes that were fried in animal fat, cakes, prepared commercially.

- Worksheet CC "Good Dental Health Practices" prepared in sufficient quantity for student distribution.

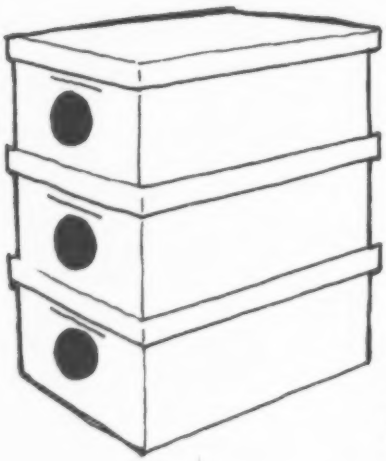
- Have students taste snacks.
  - — Are they naturally sweet or has sugar been added.
  - — Are they salty?
  - — Has salt been added?
  - — Do they have a high fat content?
  - — Do the snacks get stuck in the students' teeth?

Have students feel teeth with their tongues. Note how teeth feel clean with "green" snacks, while other snacks tend to stick to teeth. Snacks in the "red" group seem extra salty and/or sweet. Note also, that candy, caramels, sugar coated cereals all stick to teeth. The sugar that sticks to the teeth makes an acid that helps teeth to decay and form cavities. Healthful snacks are sugarless and help clean the teeth--this means less cavities and toothaches.

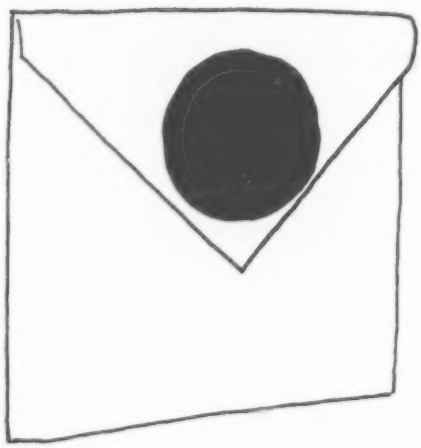
- Duplicate Worksheet EE, or prepare letter to Teachers/Administrators/Parents in sufficient quantity for distribution.

- Prepare letter for teachers, administrators or parents regarding the need for healthy snacks for children. An example of such a letter is found on Worksheet EE.

# NOTES ON ACTIVITY 7

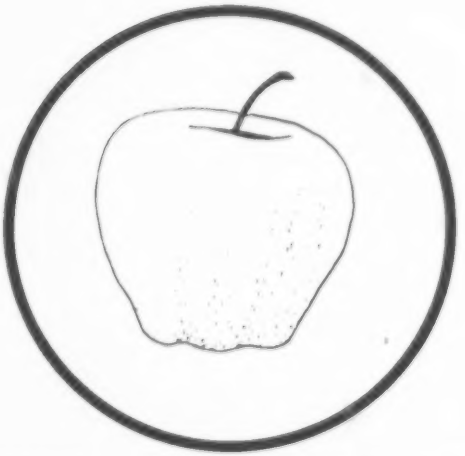


- Construct a snack stoplight from three shoe boxes.
- Cut one circle from green construction paper, one from yellow construction paper and one from red. You may also use plain paper and have the students color each circle.
- Glue a green, yellow or a red circle on each box.
- Cut a long slit above each of the colored circles. This is where the pictures of snacks will be placed.
- Stack the boxes, one on top of the other, to form a street light.
- Use cut out food items from Worksheets Z, AA, and/or BB; use pictures of snacks cut out of magazines; use Dairy Council Food Models to identify them as green, yellow or red snacks.



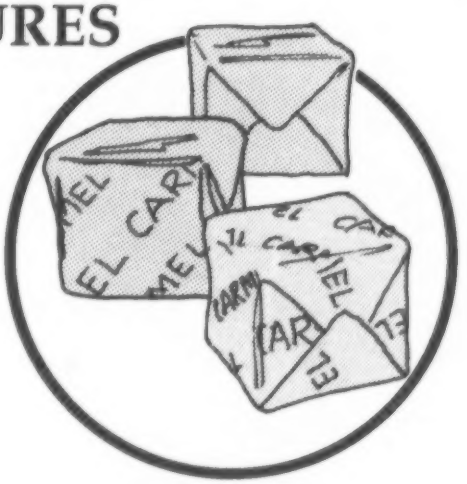
If shoe boxes are not available, you could glue the colored circles to three large envelopes and tack them to the bulletin board. This will not have the same effect of equating a traffic "safety" light to "safe" snacking habits.

# FOOD PICTURES

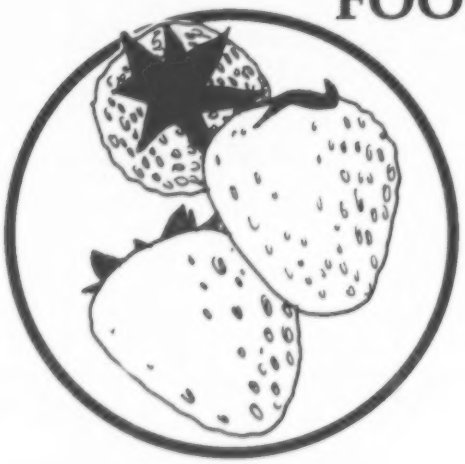


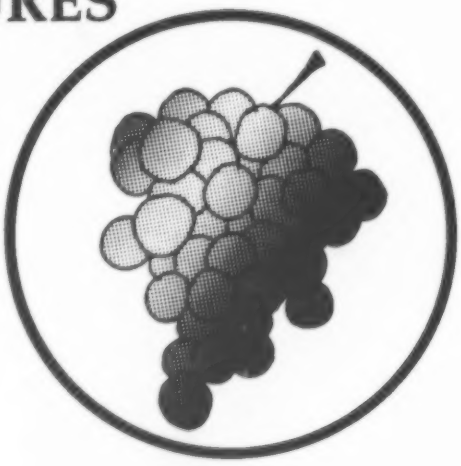
WORKSHEET AA

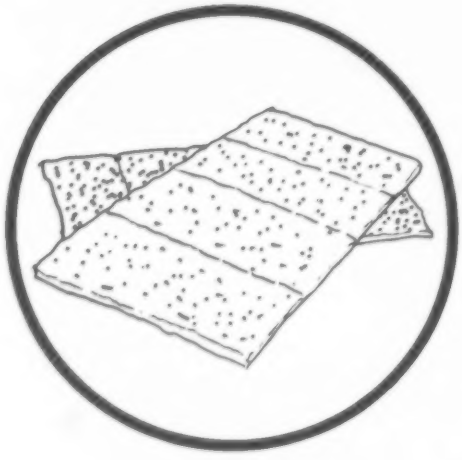
# FOOD PICTURES



# FOOD PICTURES







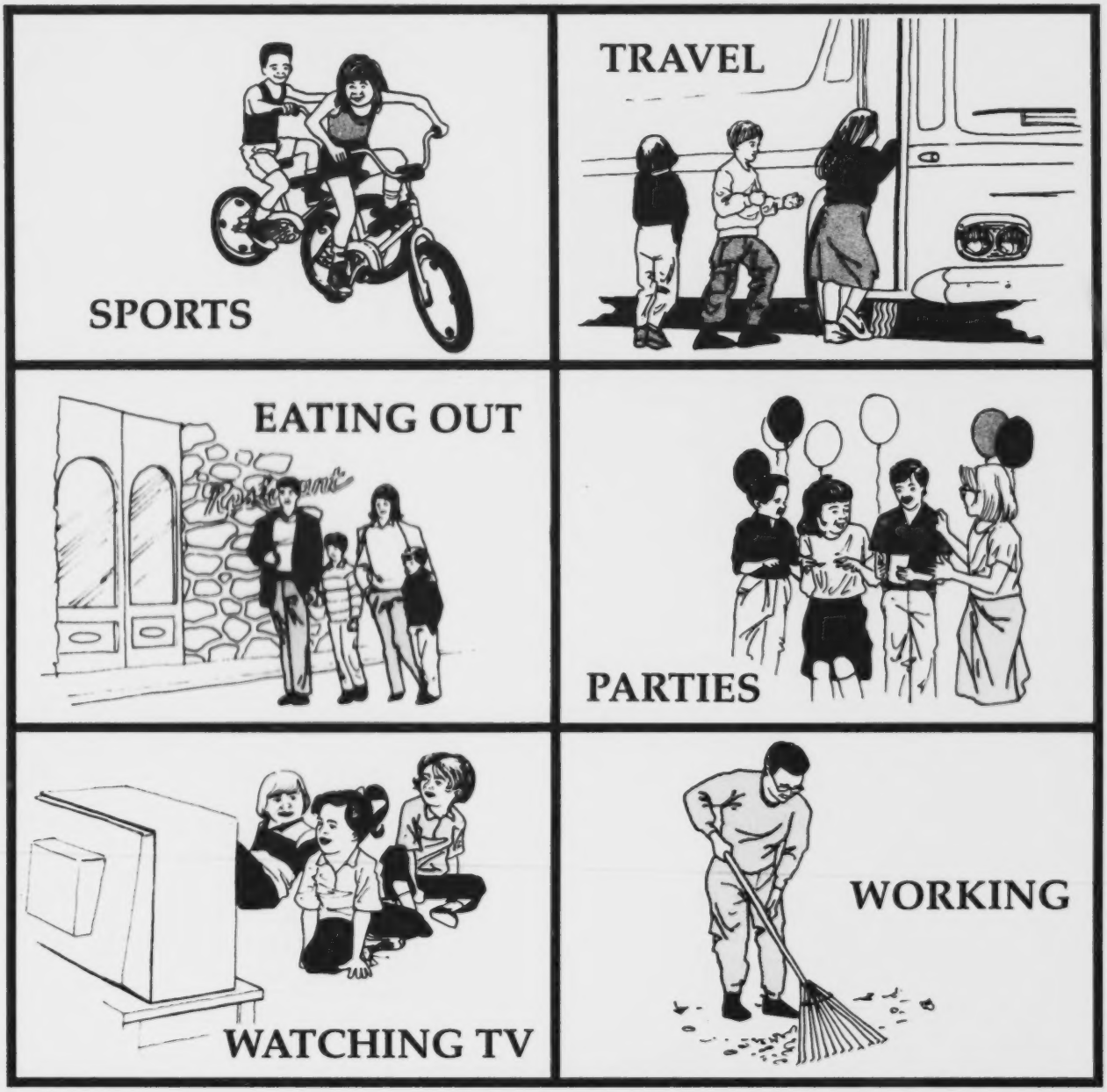
WORKSHEET CC

# GOOD DENTAL PRACTICES

CIRCLE GOOD DENTAL PRACTICES
CROSS OUT BAD DENTAL PRACTICES

# NAME THE SNACKING FOOD

NAME A SNACKING FOOD TO ENJOY WHILE DOING THESE ACTIVITIES



# WORKSHEET EE

**(SCHOOL LETTERHEAD)**

Dear Teacher/Administrator/Parent:

We, of the school's food service staff, encourage you to promote students' interests in order that they will participate in the school lunch program, but we often fail to point out other areas where nutrition plays an important part in the students' overall health and well-being.

It is never to soon to teach nutrition! Attitudes about nutrition are formed at an early age. Children develop habits based on these attitudes that continue throughout their adult years. You as a concerned and involved individual can begin to develop favorable attitudes towards food and foster good eating habits by teaching children how to wisely select their snacks. It will be a valuable "starter" course in basic nutrition.

Over the past few years, snacking has become America's favorite way to eat. The average adult now snacks as many as six to seven times daily. Children up to age 12, sometimes snack twice as often. Nutritionists are no longer fighting the trend because it is here to stay. It is time to teach everyone good snacking habits.

The average six-year old child needs 2,000 calories per day, as many as a 30-year old adult, even though the child cannot eat as much as an adult in one sitting. Snacks can help satisfy real between-meal hunger; supplement, not replace, a child's regular meals; and, help provide the large number of calories for energy and growth needed each day.

Students of all ages should know that food, including snacks, relates to good health, provides energy, and helps them grow. Encourage the students to notice the foods served in the cafeteria, such as fresh fruits and vegetable. Assist them so they will develop the skills needed to select snacks so that they get a variety of nutrients needed for good health.

Kindergarten through third grade is a good time to teach children how to select snacks that help meet their nutrition needs. It's a good time because they are beginning to develop life-long eating habits. They do not get a chance to choose the foods they eat at family meals, but do make snack choices. They love to snack!

In health class, students deal with general well-being that includes eating right, sleeping enough and maintaining health and brain power. In the physical education class, life-time sports that integrate physical fitness and exercise are taught.

Thank you for your support of nutrition education efforts at (name of school). If I can be of any assistance in helping you promote an awareness to good snacking habits with your students, please do not hesitate to contact me at (phone number).

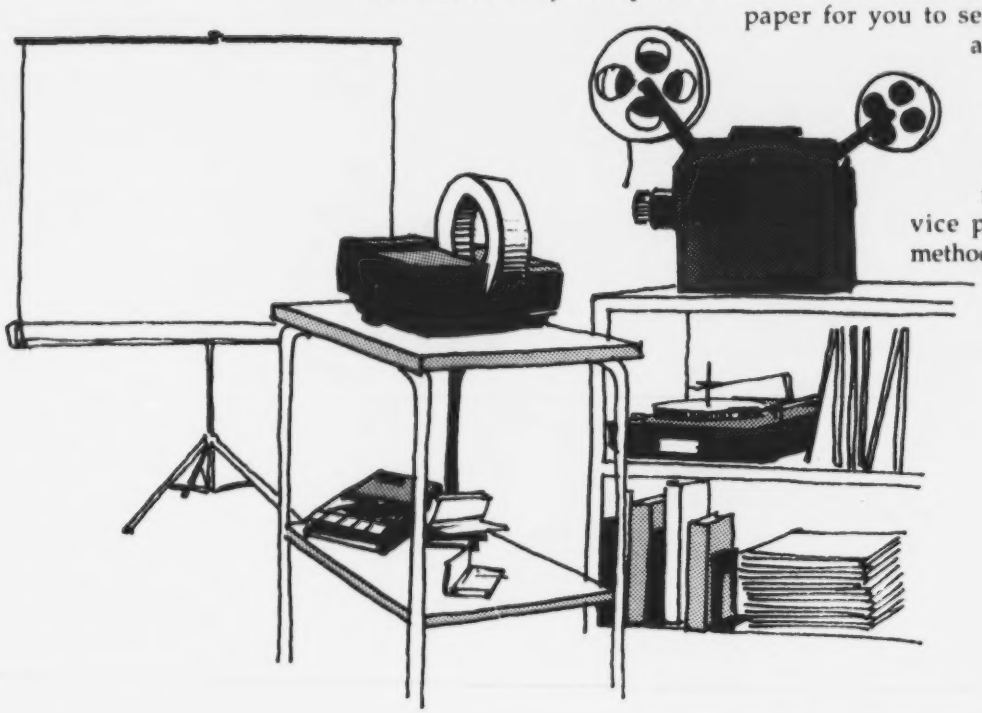
Sincerely,

(Your name)
School Food Service Director

# RESOURCE MATERIALS FOR DUPLICATION

Americans have been changing their lifestyles and eating patterns over the past 50 years. The fast food restaurants, frozen foods, convenience foods, increases in fad diets, nutrition misinformation, television viewing, and, even the increase in women working, all have affected the way Americans eat. The pattern of diet is now more likely to be affected by dietary excesses than by deficiencies. To help children and their parents/guardians make wise food choices within the context of our modern society, nutrition education must include information current to nutrition-related health concerns. Consequently, the following material reflects such contemporary issues and is intended to provide nutrition education information.

This material may be reproduced and distributed as is, copied on school letterhead paper for you to send to parents, teachers or administrators, excerpted and used on menu backs, serve as articles for the school/local newspapers, used as an educational resource for school food service personnel or in any other method that will assist you.



# LET'S LOOK AT THE LABEL!

When you are not sure what a product is made out of, look at the label!

The ingredients are listed in a special order. The ingredients listed first tell you what the food product is in most quantity. If sugar or salt is listed among the first three ingredients, you know the product contains quite a bit of that item.

Some other things you might find on a label are health claims. Some of these might be:

| | |
|---|---|
| **Cholesterol-free** | This product contains less than 2 milligrams of cholesterol per serving. |
| **No Cholesterol** | This product has no cholesterol detectable by present analytical methods. This does not mean that the product will maintain the body's cholesterol at its present level. "No cholesterol" products made with palm or coconut oil may actually raise the body's manufacture of cholesterol. |
| **Natural** | This label does not always mean that the product is "healthy." There is no definition for this product other than it "occurs in nature." Fats, sugars are natural ingredients to name a few. |
| **Sugar-free** | For a product to be labeled "sugar-free" it cannot contain any nutritive carbohydrate sweetener, such as honey, fruit juice, sucrose, molasses, etc. |
| **Low calorie** | This claim indicates the product has 40 calories or less per serving and no more than 0.4 calories per gram. |
| **Low Sodium** | The product contains less than 140 milligrams of sodium per serving. |
| **Very Low Sodium** | The product has no more than 35 milligrams of sodium per serving. |
| **Sodium Free** | This product has less than 5 milligrams of sodium per serving. |
| **No Artificial Color** | To enhance the color of a product, ingredients are sometimes added. This label indicates that no artificial colors are used. The color of the product might be from beet juice, carrot oil, grape skins, etc. |
| **No Artificial Flavor** | This product does not have artificial additives for flavoring. This does not exclude the use of artificial preservatives however, which may or may not cause allergic reactions in individuals. |
| **May contain one or more of the following** | This indicates a list of different items that may or may not be included in the product depending on price and availability at the time the product is produced. An example would be oils or shortening used in the production. |

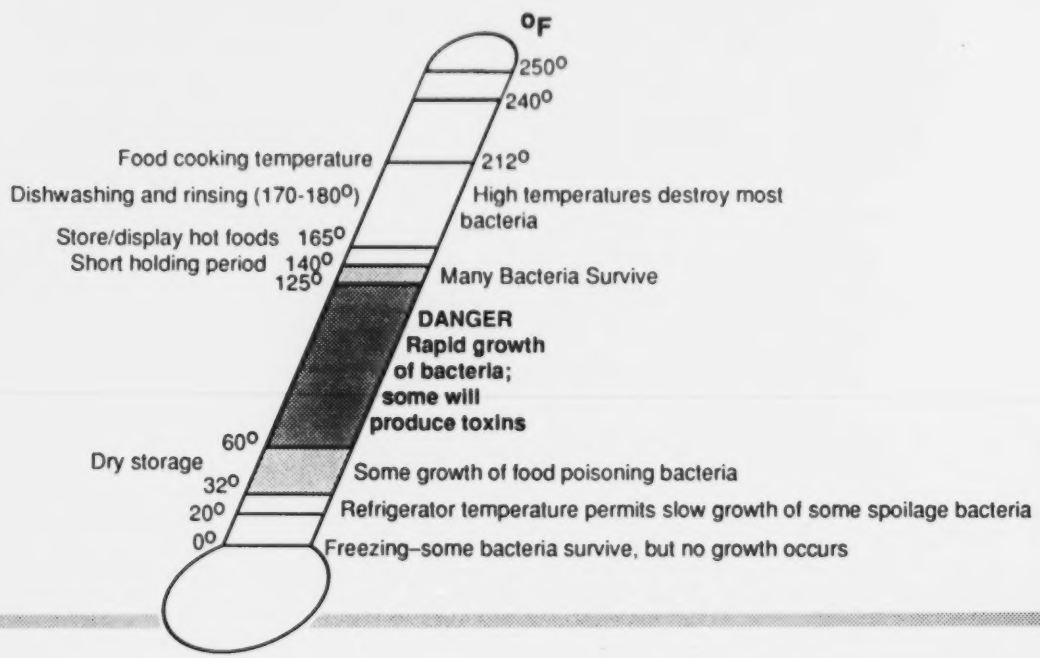
# BETTER TO THINK FOOD SAFETY — THAN BE SORRY

One incident of food poisoning can spoil the record of any food-service operation. But food poisoning is avoidable! Know good sanitation practices. By following a few simple food safety and sanitation guidelines, you can prevent food poisoning.

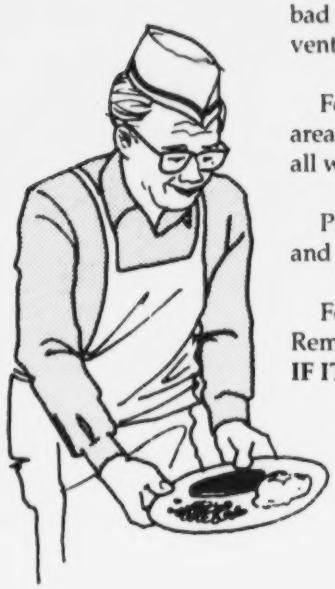
Proper procedures in ***food storage,*** preparation, and service will help to assure food safety. Food should be placed in storage areas as soon as possible after delivery, especially refrigerated and frozen items. Bacteria multiply rapidly in a warm, moist atmosphere. Storage areas should be clean and free of rodents and insects. If shelves are used for food storage, they should be at least six inches above the floor.

In ***preparation and service,*** it is important to handle the food as little as possible. Food-service employees should wash their hands regularly with soap and hot water. Utensils and equipment should be cleaned and sanitized after each use. Perishable foods must not be left out for long periods of time during preparation.

All foods require cooking to the ***proper temperature.*** Temperature readings should be taken from the center of the food item, using a metal stem thermometer. Most foods require heating to 140°F, but temperatures will vary for pork and poultry. Proper temperature is also important on the serving line! Hot foods should be held at a minimum of 140°F, and refrigerated units may be necessary for perishable items. Once a leftover food item has been reheated, it should be discarded and not used again.



# KEEP IT CLEAN!



**Cleanliness** among food service workers also affects food safety. Regular hand washing, and clean fingernails, clean uniforms, and hairnets cannot be stressed enough. All food service personnel should have regular physical examinations. Injuries or infections especially boils, open cuts or sores can contaminate foods and should be reported and treated. Also, sneezing, coughing, eating, smoking, or gum chewing in work areas are bad habits to get into. Sneeze guards should also be installed in the serving areas to prevent food contamination.

Food safety also applies to the work environment. All food preparation surfaces and areas should be kept clean--floors mopped daily. Place garbage receptacles with lids in all work areas and empty and wash them regularly.

Proper dishwashing procedures are essential. Clean and sanitize dishes, utensils, pots, and pans after each use. Clean dishes should be stored properly to avoid contamination.

Food safety and sanitation go hand in hand. All it takes is a little common sense! Remember...for food safety...**KEEP IT HOT IF IT'S SUPPOSE TO BE! KEEP IT COLD IF IT'S SUPPOSE TO BE! KEEP IT CLEAN--IT'S SUPPOSE TO BE!**

# GIVE SOME THOUGHT TO FOOD QUALITY

Quality in food service means more than just good food! Many factors are involved in the preparation and service of a meal. Quality should be reflected in these other factors as well.

Meal quality starts with well-planned menus. The Four Food Groups (meat and meat alternates, milk and milk products, fruits and vegetables, and breads and cereals) and an awareness to the fifth class of food (containing high fat, salt and sugar and the need to increase of fiberous foods) serve as a good basis for planning nutritious meals with a variety of foods. The USDA "Menu Planning Guide" is another good reference. For added meal appeal, menus should be checked for:

____variety of food colors, textures, and shapes

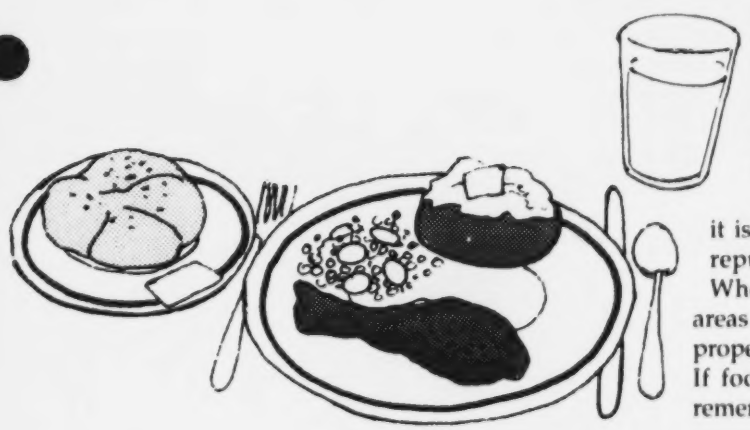
____contrast in flavor (spicy versus bland foods)

____contrast in temperature (hot versus cold foods)

____good distribution of favoritefoods with less popular items

____nutrient adequacy

____lack of repetition of menu items



Food preparation is another key quality component. Standardized recipes help to insure that the required number of servings of a uniform product are produced. Accurate measurement during food preparation is important if the desired end-product is to be achieved. Tasting spoons may come in handy as a quality check.

And how can food be considered "good quality" if it isn't safe? All food items should be purchased from reputable dealers. Discard bulging or leaking cans. When preparing foods, clean hands and clean work areas are a must. Cooked food should be heated to the proper temperature in order to kill any microorganisms. If foods are held for a period of time before serving, remember to keep hot foods hot and cold foods cold.

Don't forget about quality during dining hours! Meal time should be relaxed and pleasant. Use posters or decorations to liven up a dreary dining area. Ask the students to help in decorating. Be cheerful when serving customers. A smile can go a long way towards making a meal more enjoyable.

All of these factors affect food taste and meal appeal. Make quality a part of your daily work routine! School lunch should be a looked-forward-to-break in the children's school day.

# THINK WHAT YOU DRINK

Beverages are more than just thirst quenchers! What you select to drink with a meal or snack can add nutrients as well as quench a thirst.

Milk and milk shakes are rich in several nutrients, most notably protein, calcium, and the B vitamin riboflavin. But beware, milk shakes are also rather caloric! Fruit juices are often good sources of vitamin C; orange juice and grapefruit juice are especially high. Vitamin C and/or vitamin A are found in vegetable juices. Beverages like these give a nutritional boost to meals and snacks.

Soda or pop contains lots of calories and refined sugar, but has little nutritional value. Black coffee and tea provide few or no calories. Unfortunately, they also contain few or no nutrients. Don't let these beverages take the place of more nutritious drinks.

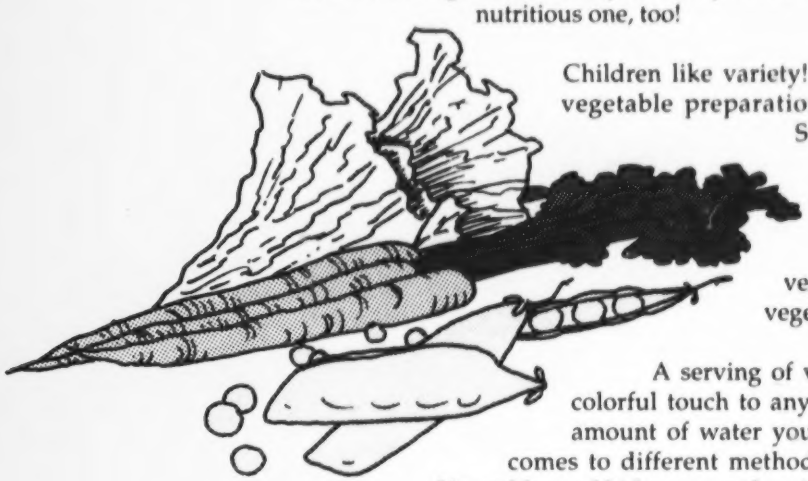
Many "fruit drinks" are available on the market. These drinks are often fortified with nutrients. However, when compared with natural fruit juices, they usually lack the fiber provided by fruit pulp, and they contain much added sugar. Real fruit juice might be a better nutritional bargain. Look for fruit and vegetable juices that are 100 percent pure. Diluted juices or juice beverages should have a statement on the label or package declaring the percentage of real juice in the product in 5 percent increments.

So drink soda, coffee, and tea as extras or occasional treats. Don't leave milk and fruit juice on the sidelines! And dieters should like the fact that skim milk and vegetable or fruit juices make nutritious, low-calorie snacks. Choose your beverages by the nutritional company they keep!

# THE VEGETABLE DILEMMA

It is often thought that children and vegetables just don't mix. Actually, children may dislike certain vegetables because they are unfamiliar. And even an adult can pass up a serving of a vegetable that is overcooked or looks unappealing. Because vegetables are good sources of several important nutrients, especially vitamin A, vitamin C, and fiber, children should be encouraged to taste and develop a liking for a variety of vegetables. Certain preparation techniques may help to make the "hated vegetable" more likeable.

Vegetables should be cooked in the least possible amount of water and time. Too much water may cause the vegetables to become mushy and unappealing. Also, water soluble nutrients such as vitamin C are lost when too much cooking water is used. Mushiness can also result from overcooking. Some vegetables lose their color and flavor when cooked or held too long. Why give a colorful, appealing vegetable the blahs? A little care in vegetable cookery not only leads to a more attractive product, but a more nutritious one, too!



Children like variety! Experiment with different methods of vegetable preparation. Why not try stir-fried vegetables? Sometimes raw vegetables are better accepted by kids. Add different chopped or sliced vegetables to salads. Or how about a relish cup with vegetable dip? When introducing a new vegetable, offer a taste or test portion. Help vegetable popularity grow!

A serving of vegetables, properly prepared, can add a colorful touch to any meal. Watch the cooking time and the amount of water you use! Let your imagination go when it comes to different methods of preparing and serving vegetables. Vegetables and kids can get along!

# WHOLE GRAIN COOKERY

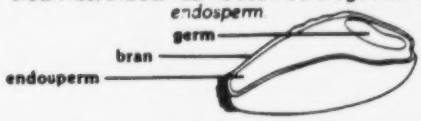
Whole grain foods like brown rice, whole wheat flour, and whole-wheat pasta behave differently from the grains you may be used to, such as regular rice and all-purpose flour, because whole grains are less processed. All or part of the bran layer of the grain is still present in whole-grain products. The presence of this bran layer makes whole grains richer in nutrients and fiber, but it also means that more moisture and a longer cooking time are needed in order to penetrate the layer. Less processing also makes whole-grains more susceptible to spoilage.

Baked products made with whole wheat flour seem to turn out best when some combination of whole wheat and regular flour is used. More moisture may have to be added to the batter or dough to ensure that a whole wheat baked good doesn't dry out.

Brown rice and whole wheat pasta often require more moisture and a longer cooking time than regular rice or pasta. Brown rice may need to be rinsed before it is cooked. Experiment with the amount of water and length of time needed to prepare these whole grains. When you are satisfied with the product, record the preparation information on recipe cards. If a new brand of whole-grain product is purchased, you may need to adjust the recipe. These products can vary!

Introduce whole grains into the menus gradually. Prepare a rice dish with half regular rice and half brown rice. Try serving pizza with whole wheat crust. Whole grains can contribute nutrients and fiber, as well as variety, to school lunches!

*Whole grain products such as whole wheat flour, brown rice, and oatmeal include the bran, germ, and endosperm.*




**Compared to unenriched refined grains, whole grains provide additional minerals, vitamins, and fiber to the diet. Enriched grain products have added nutrients such as iron and some B vitamins—thiamine, riboflavin, and niacin. However, whole grain products still provide more fiber.**

# PROTEIN POWER

Protein is a group of chemically related compounds that must be provided by the diet. Each protein has its own specific pattern of smaller units, or amino acids. The amino acids from dietary protein are used to make body proteins for building new tissues or repairing and maintaining existing tissues, and this process of making body proteins continues throughout life. During periods of rapid growth, such as infancy, meeting protein needs is especially important.

The daily recommended amounts for protein vary with age and sex. A six-year-old child needs about 30 grams of protein per day, an adult man about 56 grams, and an adult woman about 46 grams. It has been estimated that many people in this country consume two or three times the amount of protein needed. This is wasteful and costly. A small serving of meat (3 1/2 oz.) provides about 25 grams of protein; 1 egg, 7 grams; 1 ounce of cheese, 7 grams; 1 glass of milk (8 oz.), 8 grams; 1 slice of bread, 2 grams; and 1/2 cup of cooked soybeans, 10 grams. In other words, an adult woman could consume a large hamburger on a bun and 3 glasses of milk and obtain more than enough protein for one day.

Certain amino acids must be provided in our diet every day. They body can make full use of the protein we eat only if these amino acids are present in specific proportions. Protein from animal sources (meat, poultry, fish, milk, eggs, and cheese) has an amino acid "recipe" that more nearly matches the body's requirement than does protein from plant sources.

This does not mean that vegetarian meals are necessarily inferior. "VEGETARIAN DIETS" have different meanings. Some vegetarians include milk and/or eggs in their diet. Milk and eggs are excellent sources of protein with good amino acid "recipes." But if there are no animal foods in the diet, it is important to include a variety of plant sources of protein. Proteins from one specific plant food, such as rice, may be low in one or more of the necessary amino acids, but proteins in other plant foods, such as beans, may make up for this deficit. So, if one eats both rice and beans, each makes up for the other's shortcomings. Pairs of food such as rice and beans are known as **complementary protein sources**.

# WHAT IS FIBER?

Dietary fiber has received much attention lately. Although it is a necessary component of our diet, its importance has been realized only recently. Lack of dietary fiber has been associated with many diseases, but research on fiber is in the very beginning stages and has quite a way to go. Most of the popular statements about fiber are, as yet, theory.

**WHAT IS DIETARY FIBER?**

Dietary fiber refers to the plant constituents that are resistant to digestion by the human gastrointestinal tract. Cellulose, hemicellulose, lignin, gums, mucilages, and pectines make up dietary fiber.

**WHY IS DIETARY FIBER IMPORTANT?**

Fiber supplies "bulk" in our diet. This "bulk" aids in moving food through the gastrointestinal tract, increases stool volume, and helps improve daily bowel habits. The human digestive tract does not contain the enzymes necessary to break down dietary fiber. Thus, fiber passes to the stomach, and then to the small intestine virtually unchanged. In the large intestine, fiber may be broken down somewhat, and it also absorbs some water. This relatively undigested fiber-water mass is termed "bulk."

**DISEASES ASSOCIATED WITH LACK OF DIETARY FIBER.**

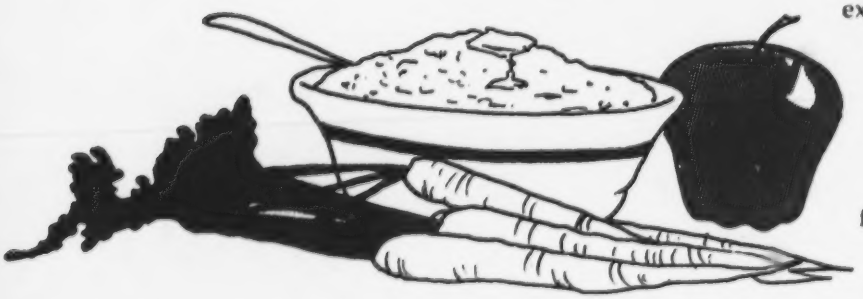
Constipation, diverticulosis, appendicitis, hiatus hernia, varicose veins, hemorrhoids, obesity, diabetes mellitus, and cancer of the colon have all been associated with a lack of dietary fiber.

However, the facts about fiber and disease are sketchy at this point. "Bulk" provided by fiber may move the food through the gastrointestinal tract at a more rapid rate, and thus relieve constipation.

Diverticulosis, a condition in which pockets form in weak spots of the intestinal wall, may arise from the increased pressure in a low-fiber diet. Treating diverticulosis with a high-fiber diet, particularly bran, seems to alleviate the symptoms. On the other hand, the incidence of appendicitis has decreased in the U.S. by 40 percent in the past 20 years, with no apparent changes in fiber intake. Lack of fiber in the diet as a cause or factor in the other diseases is still being studied.

**DIETARY FIBER AND CANCER OF THE COLON.**

Because fiber aids in moving fecal contents through the intestinal tract, it is presumed to reduce the amount of time the stool is in contract with compounds and bacteria present in the colon. It is thought that prolonged exposure of the feces to these colonic compounds and bacteria favors carcinogen production (formation of compounds that are known to cause cancer). A diet high in fiber also might eventually alter the types of bacteria normally found in the colon, and even produce a strain incapable of forming carcinogens. Additional research is needed before more definite statements can be made about cancer of the colon and dietary fiber.



## HOW MUCH FIBER IS NEEDED IN THE DIET?

The only values we have for fiber content of foods are "crude fiber" values. These values are obtained from harsh acid-base treatment which may destroy up to 50 percent of the fiber. Therefore, dietary fiber intake is usually greater than the crude fiber values show, making it difficult to determine the actual amount of dietary fiber consumed. Most Americans consume about 8 to 11 grams of crude fiber per day. However, much of our fiber comes from fruits and vegetables rather than whole grains. Although unproven, the amount of whole grains ingested may be more significant. Fiber requirements are still being researched, and people may vary in the amount of dietary fiber they need.

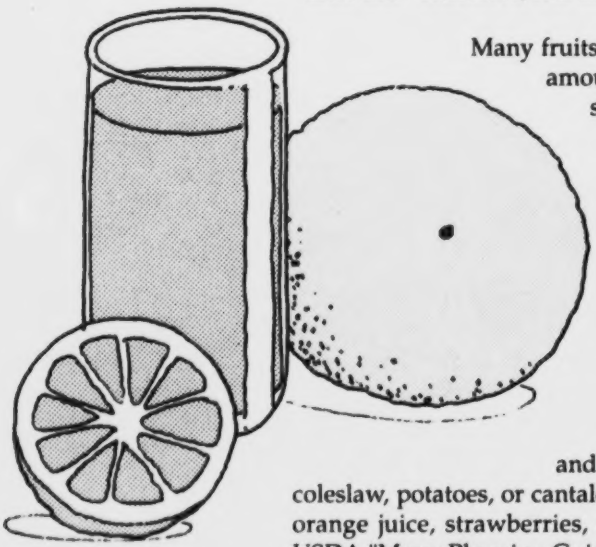
### CRUDE FIBER CONTENTS

| FOOD | AMOUNT OF FOOD IN GRAMS | AMOUNT OF FIBER IN GRAMS |
|---|---|---|
| 1 medium apple | 150 g | 1.50 g |
| 1 small banana | 175 g | .87 g |
| 1 small orange | 180 g | .90 g |
| 1 cup orange juice | 248 g | .25 g |
| 1 cup cooked lima beans | 170 g | 4.70 g |
| 1 cup cooked green beans | 125 g | 1.25 g |
| 1 medium raw carrot | 50 g | .50 g |
| 1 stalk celery | 40 g | .40 g |
| 1 cup shredded raw cabbage | 70 g | .56 g |
| 1/4 head iceberg lettuce | 113 g | .56 g |
| 1 slice whole wheat bread | 25 g | .40 g |
| 1 slice cracked-wheat bread | 25 g | .12 g |
| 1 slice rye bread | 25 g | .10 g |
| 1 slice pumpernickel | 25 g | .28 g |
| 1 cup 40% bran flakes | 35 g | 1.00 g |
| 1 cup cooked oatmeal | 240 g | 1.90 g |
| 1 cup puffed wheat | 15 g | .30 g |
| 1 shredded wheat biscuit | 25 g | .58 g |
| 1 cup wheat flakes | 30 g | .48 g |
| 1 cup cooked brown rice | 200 g | .60 g |

- Lettuce, celery, and salad greens are very low in fiber.
- Milk, milk products, meats, refined flours, and sugars are very low in fiber.

# VITAMIN C EVERY DAY

Vitamin C is one of the most familiar nutrients needed by the body. Wound healing, formation of gum tissue in the mouth, and cohesion of skin cells are some of the body functions requiring vitamin C. Because vitamin C is a water-soluble nutrient, our bodies use the amounts needed each day and excrete the excess. Vitamin C cannot be stored for later use. Therefore, it is important to eat foods containing vitamin C every day.



Many fruits and vegetables are good sources of vitamin C, however, the amount of this nutrient they provide varies greatly. An orange, a serving of grapefruit, or a 4-ounce glass of orange juice contains enough vitamin C to almost meet the daily requirement. Other fruits and vegetables, like potatoes, cabbage, and tomatoes, provide moderate amounts of this nutrient. Larger portions or a combination of these foods must be eaten if requirements are to be met. In addition, foods can lose some vitamin C during preparation. Cooking and freezing may destroy some of the vitamin C, or it can be lost when foods are cooked in too much water or not stored in tightly-closed containers.

Plan to include a vitamin C food in each day's menu. Fruits and vegetables make this easy. Choose from broccoli, cabbage, coleslaw, potatoes, or cantaloupe for moderate amounts of vitamin C. Or select oranges, orange juice, strawberries, or grapefruit as rich sources of this nutrient. Refer to the USDA "Menu Planning Guide" for a complete listing of vitamin C-rich foods. Make vitamin C an everyday occurrence!

# CALCIUM FOR HEALTHY BONES

Calcium is one of the most tightly-regulated trace minerals in the body. Most of the body's calcium is found in bones and teeth. It is also found in our blood, although the amount of calcium in the blood is very small compared with that present in the skeleton. One function of the calcium circulating in the blood is stimulation of muscle and nerves.

Milk is an excellent source of dietary calcium. An 8-ounce glass of milk provides approximately 288 milligrams (mg) of calcium. This makes a significant contribution to the average adult Recommended Dietary Allowance (RDA) of 800 mg of calcium per day. Many milk products are also rich in this nutrient. Cheese, yogurt, and ice cream help meet our body's need for calcium.

Certain vegetables contain calcium, but the amounts are small in relation to that provided by milk and milk products. Broccoli, cabbage, spinach, celery, and brussels sprouts are a few calcium-containing vegetables. Dried fruits are another source of calcium, and so are some shellfish like clams, crabs, and oysters.

So when you think calcium, first think milk. And even though vegetables and other sources may be less rich in calcium, they still add to our daily intake. Every little bit helps!

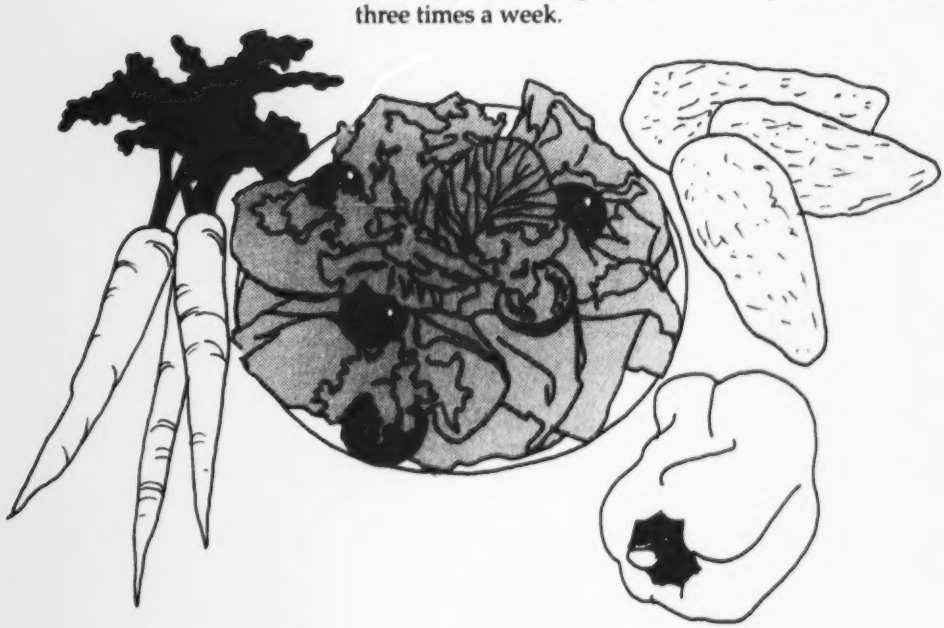
# THE VEGETABLE WAY TO VITAMIN A

Vitamin A is an essential nutrient for many parts of the body. It is needed by the eye for vision at night. Healthy skin requires it for growth and maintenance of the skin layers. Vitamin A also helps in fighting infections.

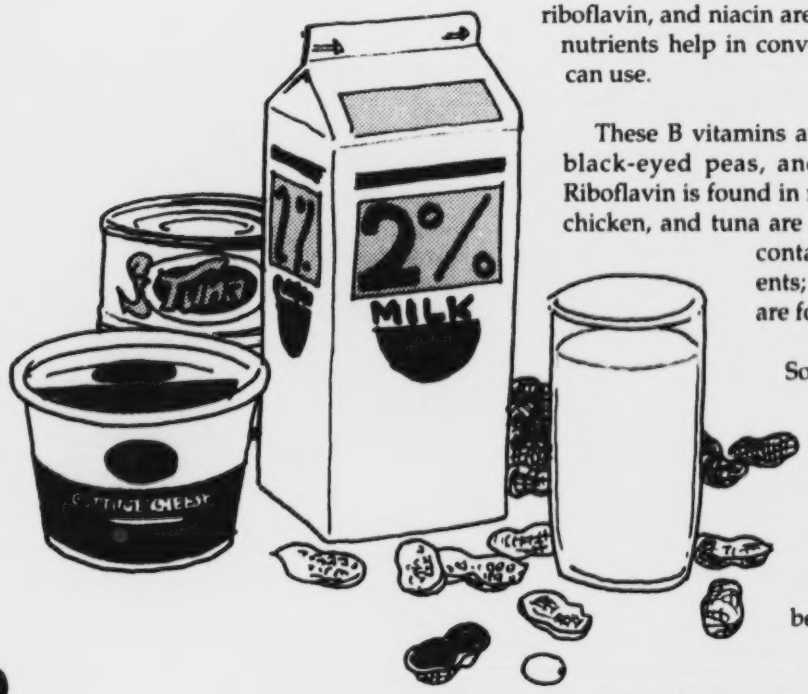
Vitamin A is a "fat-soluble" nutrient, along with vitamin D, vitamin E, and vitamin K. When we eat more of these nutrients than we need to meet our needs, the extra amounts can be stored by the body. Therefore, it is not as important to eat a rich source of the fat-soluble nutrients every day. A serving of a food high in vitamin A should be eaten at least every other day.

Dark green and deep yellow or orange vegetables are excellent sources of vitamin A. A serving of broccoli, spinach, collards, green peppers, sweet potatoes, squash, or carrots goes a long way towards meeting our needs for this nutrient. Actually, vegetables aren't the only foods rich in vitamin A. Deep orange fruits, such as apricots, cantaloupe, and mangoes, are equally good sources. Substantial amounts of this nutrient are also present in liver, eggs, and vitamin A-fortified milk.

So when you think vitamin A, don't just think of vegetables. Some fruits and several other foods are also good sources. Try to eat a serving of vitamin A-rich food at least three times a week.



# DID YOU GET YOUR B VITAMINS?




Several B vitamins are required by the human body. Thiamine, riboflavin, and niacin are three of the more familiar B vitamins. These nutrients help in converting the food we eat into energy the body can use.

These B vitamins are present in a wide variety of foods. Pork, black-eyed peas, and nuts are some foods rich in thiamine. Riboflavin is found in milk, cottage cheese, and liver. Peanuts, liver, chicken, and tuna are especially high in niacin. Many other foods contain moderate amounts of these three nutrients; and some foods, such as breads and cereals, are fortified with the B vitamins.

Some other important members of the B complex are folic acid, $B_{12}$, and $B_6$. They are necessary for proper nerve function, good appetite and digestion, and healthy skin, as well as for the release of energy from foods. Overall, meat and protein foods are the richest sources of the B vitamins. However, eating a variety of foods is the best way to insure that our needs are met.

The B vitamins are water-soluble nutrients, so our bodies use only the amounts needed each day and excrete the excess. Thus, it's important to eat foods containing B vitamins daily. Care in food preparation is important when it comes to the water-soluble nutrients. Overcooking or using too much water in cooking can cause nutrient losses. Because these nutrients are naturally present in many foods and are added to others through fortification, it is no problem to meet our B vitamin needs if our daily diet is full of variety.

# CHOOSE WISELY FOR IRON

The trace mineral iron is usually associated with our blood. It is needed as a part of a substance in the blood called hemoglobin. Hemoglobin helps to carry oxygen to the various parts of the body. For this reason, tiredness is one of the symptoms of iron-deficiency anemia, which can result from inadequate iron intake.

Certain people have special iron needs. Menstruating women need iron to replace blood losses. Pregnant women, infants, young children, and teenagers require extra iron because of rapid growth. Eating iron-rich foods is especially important for these people.

Wise food choice is important if iron needs are to be met. The number of foods rich in iron is small, and the body can absorb, or use, the iron from some foods better than others. Liver, red meats, chicken, and clams are good sources of iron, and the iron in these "animal" foods is absorbed better than that found in fruits, vegetables, or grains. A few fruits and vegetables are good sources of iron, including collards, peas, raisins, dried apricots, and other dried fruits. Whole wheat bread, dried beans, and enriched breads, cereals, rice, and pasta also provide this trace mineral. Eating an "animal" source of iron with a fruit, vegetable, or grain source boosts the total usable iron, because the former helps in the absorption of the iron from "non-animal" food. Eggs are also rich in iron, but the body doesn't absorb iron from eggs very well.

Careful selection of iron-rich foods for meals and snacks will enable you to meet your needs for this essential nutrient. People who think they don't eat enough iron-rich foods or who feel that they need more iron should check with a doctor before taking supplements. Self-medication can be dangerous!

# HUMAN RESOURCES

## REGIONAL HEALTH AND NUTRITION COORDINATORS

Regional coordinators can provide many services to school food service staff at no cost. These include: resources, workshops, and technical assistance for nutrition education.

| *NORTHERN REGION: (Region I)* | *GEOGRAPHIC AREA SERVED* |
|---|---|
| St. Lawrence-Lewis BOCES<br>Northeast Campus, P.O. Box 330<br>Norwood, New York 13668<br>(315) 353-6684 | Allegany, Cattaraugus, Cayuga, Chautauqua, Clinton, Erie, Essex, Franklin, Genesee, Hamilton, Herkimer, Jefferson, Lewis, Livingston, Madison, Monroe, Niagara, Oneida, Onondaga, Ontario, Orleans, Oswego, St. Lawrence, Seneca, Wayne, Wyoming, Yates. |
| *CENTRAL REGION: (Region II)* | |
| Ulster BOCES<br>175 Route 32 North<br>New Paltz, New York 12561<br>(914) 255-8989 | Albany, Broome, Chemung, Chenango, Columbia, Cortland, Delaware, Dutchess, Fulton, Greene, Montgomery, Orange, Otsego, Putnam, Rensselaer, Rockland, Saratoga, Schenectady, Schoharie, Schuyler, Steuben, Sullivan, Tioga, Tompkins, Ulster, Warren, Washington, Westchester. |
| *LONG ISLAND-NEW YORK CITY: (Region III)* | |
| Long Acre School<br>Sarina Drive<br>Commack, New York 11725<br>(516) 543-0942 | Nassau, Suffolk, New York City |

## REGIONAL OFFICES OF THE BUREAU OF SCHOOL FOOD MANAGEMENT AND NUTRITION

Regional staff are available at no cost to school districts to provide technical assistance and/or workshops for Child Nutrition Program operations.

| *NEW YORK CITY* | *GEOGRAPHIC AREA SERVED* |
|---|---|
| 2 World Trade Center<br>Suite 2775<br>New York City, New York 10047<br>(212) 488-5605 | Manhattan, Brooklyn, Queens, Staten Island, Bronx |
| ***LONG ISLAND-WESTCHESTER*** | |
| Nassau County BOCES<br>Salisbury Center<br>Valentines and the Plains Rds.<br>Westbury, New York 11590<br>(516) 997-7010 Ext. 270 | Nassau, Suffolk, Westchester |
| ***BUFFALO OFFICE*** | |
| Erie I BOCES<br>2 Pleasant Avenue<br>Lancaster, New York 14086<br>(716) 681-0955 | Allegany, Cattaraugus, Chautauqua, Erie, Genesee, Livingston, Monroe, Niagara, Orleans, Steuben, Wyoming |
| ***SYRACUSE OFFICE*** | |
| Tecumseh Elementary School<br>Nottingham & Waring Road<br>Jamesville, New York 13078<br>(315) 446-1949 | Broome, Cayuga, Chemung, Chenango, Cortland, Delaware, Herkimer, Jefferson, Lewis, Madison, Oneida, Onondaga, Ontario, Oswego, Otsego, Schuyler, Seneca, St. Lawrence, Sullivan, Tioga, Tompkins, Wayne, Yates |
| ***ALBANY OFFICE*** | |
| Cultural Education Center<br>Room 9D37<br>Albany, New York 12230<br>(518) 474-3956 | Albany, Clinton, Columbia, Dutchess, Essex, Franklin, Fulton, Greene, Hamilton, Montgomery, Orange, Putnam, Rensselaer, Rockland, Saratoga, Schenectady, Schoharie, Ulster, Warren, Washington |

## DAIRY COUNCIL OFFICES IN NEW YORK STATE

The National Dairy Council offers extensive and excellent nutrition education resources for the classroom. Reference to its annual catalog will help you select appropriate resources to match the ability levels of your students.

Dairy Council of Niagara Frontier Area
Buffalo (716) 634-1080

Dairy Council of Metropolitan New York, Inc.
New York (212) 682-7961

Dairy Council of Rochester Area, Inc.
Rochester (716) 288-1758

Dairy, Food and Nutrition Council, Inc.
Area Offices

**Arkport** (607) 295-7222
**Binghamton** (607) 724-7598
**Latham** (518) 785-5441
**Poughkeepsie** (914) 452-5630
**Syracuse** (315) 475-2721

## CORNELL COOPERATIVE EXTENSION

**Cooperative Extension Agents are able to answer questions and provide nutrition resources.**

**ALBANY**
518-765-2874
Cooperative Extension
Albany County Resource
Martin Road,R.D. 2,Box 131
Voorhesville, NY 12186

**ALLEGANY**
716-268-7644
Cooperative Extension
R.D. 1, Box 226
Belmont, NY 14813

**BROOME**
607-772-8953
Cooperative Extension
840 Front Street
Binghamton, NY 13905

**CATTARAUGUS**
716-699-2377
Cooperative Extension Center
Parkside Drive
Ellicottville, NY 14731

**CAYUGA**
315-255-1183
Cooperative Extension
248 Grant Avenue
Auburn, NY 13021

**CHAUTAUQUA**
716-664-9502
Cooperative Extension
Chautauqua Co. Agricultural Center
R.D.2,Turner Rd.,Box 341 A
Jamestown, NY 14701-9608

**CHEMUNG**
607-734-4453
Cooperative Extension
425-447 Pennsylvania Avenue
Elmiria, NY 14904

**CHENANGO**
607-334-2634
Cooperative Extension
North Broad Street
Norwich, NY 13815

**CLINTON**
518-561-7450
Cooperative Extension
Old Court House Building
Margaret Street
Plattsburgh, NY 12901

**COLUMBIA**
518-828-3346
Cooperative Extension
Route 66. R.D. #1
Hudson, NY 12534

**CORTLAND**
607-753-5077
Cooperative Extension
County Office Building
60 Central Avenue
Cortland, NY 13045

**DELAWARE**
607-865-6531
Cooperative Extension
P.O. Box 184
Hamden. NY 13782

**DUTCHESS**
914-677-5061
Cooperative Extension
P.O. Box 259
Millbrook, NY 12545

**ERIE**
716-652-1170
Cooperative Extension
South Grove Street
East Aurora, NY 14052

**ESSEX**
518-962-8241
Cooperative Extension
Sisco Street
Westport, NY 12993

**FRANKLIN**
518-483-6767
Cooperative Extension
11 Brewster Street
Malone, NY 12953

**GENESEE**
716-343-3040
Cooperative Extension
420 East Main Street
Batavia, NY 14020

**GREENE**
518-622-9820
Cooperative Extension
Route 3, Box 906
Cairo, NY 12413

**HERKIMER**
315-866-7920
Cooperative Extension
107 Court Street
Herkimer, NY 13350

**JEFFERSON**
315-788-8450
Cooperative Extension
223 JB Wise Place
Watertown, NY 13601

**LIVINGSTON**
716-658-2131
Cooperative Extension
158 South Main Street
Mount Morris, NY 14510

**LEWIS**
315-376-6551
Cooperative Extension
P.O.Box 72, Outer Stowe St.
Lowville, NY 13367

**MADISON**
315-684-3001
Cooperative Extension
Eaton Street
Morrisville, NY 13408

**MONROE**
716-461-1000
Cooperative Extension
249 Highland Avenue
Rochester, NY 14620

**MONTGOMERY**
518-853-3471
Cooperative Extension
Old Court House
Fonda, Ny 12068

**NASSAU**
516-454-0900
Cooperative Extension
Plainview Complex-Bldg J
1425 Old Country Road
Plainview, NY 11803

**NIAGARA**
716-433-6773
Cooperative Extension
4487 Lake Avenue
Lockport, NY 14094

**ONEIDA**
315-736-3394
Cooperative Extension
R.D.#1, Box 126
2nd Street
Oriskany, NY 13424

**ONONDAGA**
315-424-9485
Cooperative Extension
1050 West Genesee Street
Syracuse, NY 13204

**ONTARIO**
716-394-3977
Cooperative Extension
480 North Main Street
Canandaigua, NY 14424

**ORANGE**
914-343-5979
Cooperative Extension
239 Wisner Avenue
Middletown, NY 10940

**ORLEANS**
716-589-5561
Cooperative Extension
P.O. Box 150
Albion, NY 14411

**OSWEGO**
315-963-7286
Cooperative Extension
Main Street
Mexico, NY 13114

**OTSEGO**
607-547-2536
Cooperative Extension
123 Lake Street
Cooperstown, NY 13326

**PUTNAM**
914-628-0454
Cooperative Extension
179 East Lake Boulevard
Mahopac, NY 10541

**RENSSELAER**
518-279-4000
Cooperative Extension
County Court House
Troy, NY 12180

**ROCKLAND**
914-638-5500
Cooperative Extension
62 Old Middletown Road
New City, NY 10956

**ST.LAWRENCE**
315-379-2311
Cooperative Extension
University Shopping Center
125 Main Street East
Canton, NY 13617

**SARATOGA**
518-885-8995
Cooperative Extension
50 West High Street
Ballston Spa, NY 12020

**SCHOHARIE**
518-234-4303
Cooperative Extension
41 South Grand Street
Cobleskill, NY 12043

**SCHUYLER**
607-535-7466
Cooperative Extension
Rural-Urban Center
208 Broadway
Montour Falls, NY 14865

**SENECA**
315-539-9254
Cooperative Extension
Mill and East William Street
Waterloo, NY 13165

**STEUBEN**
607-776-7666
Cooperative Extension
199 East Steuben Street
Bath, NY 14810

**SUFFOLK**
516-727-7850
Cooperative Extension
246 Griffing Avenue
Riverhead, NY 11901

**SULLIVAN**
914-292-5250
Cooperative Extension
P.O. Box 191
Liberty, NY 12754

**TIOGA**
607-687-4020
Cooperative Extension
6 Main Street
Owego, NY 13827

**TOMPKINS**
607-272-2292
Cooperative Extension
225 South Fulton Street
Ithaca, NY 14850

**ULSTER**
914-338-3494
Cooperative Extension
P.O. Box 3545
Kingston, NY 12401

**WARREN**
518-623-3291
Cooperative Extension
17 Hudson Street
Warrensburg, NY 12885

**WASHINGTON**
518-747-2861
Cooperative Extension
County Office Bldg Annex
Lower Main Street
Hudson Falls, NY 12839

**WAYNE**
315-483-6918
Cooperative Extension
P.O. Box 217
Alton, NY 14413

**WESTCHESTER**
914-285-5960
Cooperative Extension
216 Central Avenue
White Plains, NY 10606

**WYOMING**
716-786-2251
Cooperative Extension
401 North Main Street
Warsaw, NY 14569

**YATES**
315-536-3381
Cooperative Extension
County Office Building
110 Court Street
Penn Yan, NY 14527

**NEW YORK CITY ADMINISTRATIVE OFFICE FOR CORNELL COOPERATIVE EXTENSION and EFNEP**

212-340-2900
15 East 26th Street
15th Floor
New York City, NY 10010-1565

# EDUCATIONAL RESOURCES

## Nutrition Education Programs

**Creative Food Experiences for Children.** M.T. Goodwin and G. Pollen. 1974. Available from CSPI, 1755 S St. NW, Washington, DC 20009.
This excellent teaching guide includes basic nutrition concepts, nutritional values of different foods, and nutrition activities, resource materials, and recipes.

## Cookbooks for Children

**A Child's Cookbook.** B. Beitch, T. Harms, T. Wallace, and G. Wallace. 1981. Available from 656 Terra California Drive #3, Walnut Creek, CA 94595.
The kit includes a cookbook and teacher guide. Single-portion recipes for home and school are provided in an illustrated, easy-to-use format. Many ethnic recipes are included.

## Pictures of Foods

**The Buying Guide for Fresh Fruits, Vegetables, Herbs, and Nuts.** Educational Department, Blue Goose, Inc., P.O. Box 46, Fullerton, CA 92632.
An excellent source for color photographs of fruits and vegetables.

**Food Models.** National Dairy Council. See Appendix 3 for a listing of local Diary Council offices.
Life-size color photographs of 146 foods can be used in a variety of teaching situations. Nutrient values and their contribution to the U.S. RDA are printed on the back of each model.

## Basic Nutrition Information

**Nutrition: Concepts and Controversies.** E.M. Hamilton, E.N. Whitney, F.S. Sizer, St. Paul, MN: West Publishing Company. 3rd ed. 1985.
This introductory textbook presents basic nutrition concepts and current issues in an easy-to-read, personal style. Many informative tables, charts, and drawings are included within each chapter. Each chapter concludes with an in-depth discussion of a controversial issue such as diet and heart disease, diets for athletes, and the effect of sugar on behavior of children. An extensive appendix includes a table of food composition and many additional facts.

**Jane Brody's Nutrition Book.** J. Brody. New York: Bantam Books. 1982.
Written for the general public, this book provides information on a number of current issues in nutrition. The dietary guidelines, cholesterol, fiber, sugar, food additives, food labels, sodium, fad diets, and fast-food eating are among the many topics discussed in 27 chapters.

**Nutritive Value of Foods.** Home and Garden bulletin 72. U.S. Department of Agriculture. Available from Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402. Revised 1985.
This bulletin contains nutritive values of commonly used foods. Values for fat, fatty acids, cholesterol, carbohydrate, calcium, phosphorus, iron, potassium, vitamin A, thiamin, riboflavin, niacin, ascorbic acid, and sodium are included.

# OTHER RESOURCE INFORMATION

This is a list of organizations that can provide free or low-cost food and nutrition materials. The general subject areas are indicated in **bold** type. We suggest that you make your requests as far as possible in advance since in most cases you will need to obtain publication lists, and ordering forms. Check prices and availability, and allow for mailing delays. Inclusion of a publication in this list, or in the Food and Nutrition Information Center collection, does not indicate endorsement by the U.S.Department of Agriculture (USDA) or the New York State Education Department (NYSED), nor does the USDA/NYSED ensure the accuracy of all information in the publication.

The **Food and Nutrition** Information Center (FNIC), Room 304, National Agricultural Library, Beltsville, MD, 20705, (301) 344-3719. FNIC has developed PATHFINDERS on specific food and nutrition topics. A PATHFINDER is a short bibliography designed to give guidance during the initial stages of a search for information on resources on a particular topic. Most topics have separate lists of appropriate resources for three user levels: CONSUMER, EDUCATOR, or PROFESSIONAL.

Topics include:

- Sports Nutrition
- Diet and Hypertension
- Nutrition During Adolescence
- Fad Weight Loss Diets
- Nutrition, Fitness and Well-Being *****
- Nutrition and Dental Health
- Nutrition and the Handicapped
- Nutrition and the Elderly
- Nutrition for Pregnancy *
- Weight Control
- Teenage Pregnancy & Nutrition
- Vitamin/Mineral Supplements **
- Dietary Fat and Heart Disease
- Osteoporosis
- Commonsense Nutrition **
- Vegetarianism
- Diet and Cancer
- Nutrition and Diabetes
- Food Composition
- Nutrition, Learning and Behavior
- Anorexia Nervosa and Bulimia
- Nutrition and Alcohol
- Nutrition Misinformation
- Nutrition for Infants and Toddlers *
- Food Irradiation +*
- Irradiated Fruit +****
- Safety and Wholesomeness of Irradiated Foods +*****
- Children's Literature on Food and Nutrition ***

\+ Developed by the Food Irradiation Information Center
* Consumer level only
** Consumer and educator levels only
*** Educator level only
**** Professional level only
***** Educator and professional levels only

Single copies are available free of charge from FNIC. You may reproduce as many copies as you wish.

Information on these topics are also available from the New York State Education Program Studies and Information Services (EPSIS). Contact your Regional Health and Nutrition Coordinator for processing your requests.

# OTHER U.S. GOVERNMENT ORGANIZATIONS

National Institute of Aging, Public Affairs Officer, Department of Health and Human Services, Building 31, Room 5C-35, 9000 Rockville Pike, Bethesda, MD 20892, (301) 496-1752.

National Clearinghouse for Alcohol Information, Information Specialist, P.O.Box 2345, Rockville, MD 20852, (310) 468-2600.

A primary source for Government Publications is:

U.S Government Printing Office (GPO)
Superintendent of Documents
Washington, D.C. 20402
(202) 783-3238

Orders must be accompanied by the stock number. Checks and money orders should be made payable to the Superintendent of Documents. Orders can be charged to Mastercard and VISA accounts. Prices are subject to change without notice. There are several GPO Bookstores throughout the United States. Check your telephone book under "U.S. Government".

**ASSOCIATIONS AND PRIVATE INTEREST GROUPS;**

National Council on Alcoholism 12 W. 21st Street, New York, NY 10010, (212) 206-6770.

American Allergy Association, P.O. Box 640, Menlo Park, CA 94025, (415) 321-9112.

Anorexia and Related Eating Disorders, P.O. Box 5102, Eugene, OR (503) 344-1144.

American Anorexia/Bulimia Association, Inc., 133 Cedar Lane, Teaneck, NJ 07666, (201) 836-1800.

National Anoretic Aid Society, Inc., 5796 Karl Road, Columbus, OH 43229, (614) 436-1112, send $2.00 for an information packet.

National Association of Anorexia Nervosa and Associated Disorders, Box 7, Highland Park, IL 60035, (315) 831-3438.

American Institute for Cancer Research, Washington, DC, 20069. (703) 237-0159.

American Dental Association, 211 East Chicago Avenue, Chicago, Il 60611, (312) 440-2500.

American Diabetes Association, try local/state/regional offices or the National Service Center, 1660 Duke Street, Alexandria, VA 22314, (703) 548-1500.

American Dietetic Association (for general nutrition, foods and food-service information), try local/state/regional offices or 208 South LaSalle Street, Suite 1100, Chicago, Il 60604-1003.

American Digestive Disease Society, 7720 Wisconsin Avenue, Bethesda, MD 20814.

Metropolitan Life Insurance Company, Health and Safety Education Division, One Madison Avenue, New York, NY 10010.

National Council Against Health Fraud, Inc. P.O. Box 1276, Loma Linda, CA 94354, (714) 796-3067, provides reprints of articles.

American Heart Association, try local/state/regional offices or the National Center, 7300 Greenville Avenue, Dallas, TX 75231, (214) 750-5300.

March of Dimes (for Maternal and Infant Nutrition information), try local/state/regional offices of Supply Division, 1275 Mamaroneck Avenue, White Plains, NY 10605.

Cancer Information Service, National Cancer Institute, Department of Health and Human Services, Building 31, Room 10A-18, 9000 Rockville Pike, Bethesda, MD 20892, 1-800-4-CANCER.

National Cholesterol Education Program, NCEP Information Center, National Heart, Lung and Blood Institute, C-200, Bethesda, MD 20892, (301) 230-1340.

Consumer Information Center, Pueblo, CO 81009. Write for the free Consumer Information Catalog, which lists several nutrition and food-related publications or call (202) 566-1794.

National Diabetes information Clearinghouse, Information Specialist, Box NDIC, Bethesda, MD 20892, (301) 468-2162.

National Digestive Diseases Education and Information Clearinghouse, 1255 23rd Street, N,W., Suite 275, Washington, DC 20037, (202) 296-1138.

Food and Drug Administration, try regional office first (listed under "US Government" in the telephone book) or write, Office of Consumer Affairs, Department of Health and Human Services, 5600 Fishers Lane (HFE-88), Rockville, MD 20857, (301) 443-3170.

Food and Nutrition Service, US Department of Agriculture. contact regional office (under "US Government" in the telephone book) or write Public Information Office, Park Office Center 3101, Park Center Drive, Alexandria, VA 22302, (703) 756-3276. Materials are free for those in USDA programs or can be purchased through the Government Printing Office.

Food Safety and Inspection Service Office of Public Awareness, Information Specialist, US Department of Agriculture, Room 1163-S, Washington, DC 20250, (202) 472-4485. Also the Meat and Poultry Hotline (800) 535-4555 (10 AM to 4 PM EST) or write Meat and Poultry Hotline, USDA, FSIS, Washington, DC 20250.

ODPHP Health Information Clearinghouse, ODPHP/NHIC, P.O. Box 1133, Washington, DC 20013-1133, (800) 336-4797.

National Heart, Lung and Blood Institute, Technical Information Specialist, Public Inquires and Reports Branch, Department of Health and Human Services, Building 31, Room 4A-21, 9000 Rockville, MD 20205, (301) 496-4236.

High Blood Pressure Information Center, Information Specialist, 120/80 National Institutes of Health, Bethesda, MD 20892, (301) 496-1809.

Human Nutrition Information Service, Public Affairs Staff, 6505 Belcrest Road, Room 325-A, Hyattsville, MD 20782, (301) 436-8498. Also, publications are available through the Government Printing Office. Contact the Human Nutrition Information Service for their publications list.

National Maternal and Child Health Clearinghouse, Information Specialist, 38th and R Streets, N.W., Washington, DC 20057, (202) 625-8410.

American Medical Association, try local/state/regional offices or 535 N. Dearborn Street, Chicago, IL 60610, (312) 645-5000.

Community Nutrition Institute, 2001 S Street, N.W., Washington, DC 20009, (202) 462-4700.

American College of Obstetricians and Gynecologists, Office of Public Information, 600 Maryland Avenue, S.W., Washington, DC 20024.

American Public Health Association, 1015 18th Street, N.W., Washington, DC 20036, (202) 467-5000.

National Sanitation Foundation, 3475 Plymouth Road, P.O. Box 1468, Ann Arbor, MI 48106, (313) 769-8010.

Center for Science in the Public Interest, 1501 16th Street, N.W., Washington, DC 20036, (202) 332-9110.

# OTHER SUGGESTIONS

- Regional Health and Nutrition Coordinators Office
- State and County Cooperative Extension Service Home Economics and 4H Offices
- Large grocery stores, check with the Consumer Affairs Office
- Hospitals and clinics, try the dietary or food-service departments
- State and Local health departments
- Food companies, for example:
  Best Foods, P.O. Box 8000 International Plaza, Englewood Clifts, NJ 07632
  General Foods, 250 North Street, White Plains, NY 10625
  General Mills, Inc., P.O.Box 1113, Minneapolis, MN 55440
  Heinz Company, P.O. Box 2899, Boston, MA 02277-2899
  Kellogg Company, One Kellogg Square, P.O. Box 3599, Battle Creek, MI 49016
  Kraft, Inc., Kraft Court, Glenview, IL 60025
  McDonald's Nutrition Information Center, McDonald's Corporation, McDonald's Plaza, Oak Brook, Il 60521
  Nabisco Brands, East Hanover, NJ 07936
  Oscar Mayer and Company, P.O. Box 7188, Madison, WI 53707
  Proctor and Gamble, 301 East Sixth Street, P.O. Box 599, Cincinnati, OH 45202
  Quaker Oats Company, 2400 Merchandise Mart Plaza, Chicago, IL 60654

  (These companies may offer food-service recipes ad well as consumer food and nutrition information. Address inquiries to the PUBLICATION or INFORMATION Office.)
- Companies that have quantity recipes, table tents, product posters, etc., are listed in various monthly trade journals
- University public health, food science or nutrition department (for example: the Penn State Nutrition Center (for general nutrition information), the Pennsylvania State University, Benedict House, University Park, PA 16802
- *Directory of Food and Nutrition Information Services and Resources*, Robyn C. Frank, Editor, 1984, Oryx Press, 2214 North Central at Encanto, Phoenix, AZ, 85004-1483
- *Healthy Mothers, Healthy Babies Directory of Educational Materials*, lists maternal and child health education materials, available free of charge from the American College of Obstetricians and Gynecologists, Office of Public Information, 600 Maryland Avenue, S.W., Washington, DC 20024
- Consumer Information Center, Pueblo, CO 81009. Write for the free *Consumer Information Catalog*, which list several nutrition and food-related publications (202) 566-1794

- *Encyclopedia of Associations 1987*, 21st Edition, Vol. I, II, and III, Katherine Gruber, editor, Gae Research Company, Book Tower, Detroit, MI 48226. Try this resource for the names and addresses of nutrition and food-related industries and organizations, for example:

  National Dairy Council, addresses appear in resource list.

  American Bakers Association, 111 14th Street, N.W., Suite 300, Washington, DC, 20005.

  American Egg Board/United Egg Producers, 1460 Renaissance Drive, #301, Park Ridge, IL 60068 (312) 296-7043.

  American Meat Institute, P.O. Box 3556, Washington, DC 20007, (703) 841-2400.

  Food Marketing Institute, 1750 K Street, N.W., Washington, DC 20006 (202) 452 8444.

  National Live Stock and Meat Board, 444 North Michigan Avenue, Chicago, Il 60611.

  National Pork Producers Council, P.O. Box 10383, Des Moines, IA 50306.

  Produce Marketing Association, 700 Barksdale Plaza, Newark, DE 19711, (302) 738-7100.

  Rice Council, P.O. Box 740121, Houston, TX, 77274, (713) 270-6699.

  Wheat Flour Institute, West Wing, Suite 305, 600 Maryland Avenue, S.W., Washington, DC 20024, (202) 484-2200.

  United Fresh Fruit and Vegetable Association, 727 North Washington Street, Alexandria, VA 22314, (703) 8363410.

Many of these organizations provide general nutrition information as well as material related to their particular interest. Address inquires to the PUBLICATIONS or INFORMATION OFFICE. The *Encyclopedia of Associations* is available in most public libraries.

— Channing L. Bete Co., Inc., 200 State Road, South Dearfield, MA 01373-0200, (413) 665-7611. They publish booklets and coloring books on a whole variety of health topics. These are available in quantities of 25 or more.

— Nutrition Graphics, P.O.Box 1527, Corvalis, OR, 97339. They produce posters on prenatal, infant and toddler care.

— Allegheny County Health Department, Nutrition Service, Room 519, County Office Building, Pittsburgh, PA, 15219. Write for consumer information.

— Massachusetts Nutrition Resource Center, 150 Tremont Street, Boston, MA, 02111, (617) 727-0718.

— Department of Dietetics, St. Paul-Ramsey Medical Center, 640 Jackson Street, St. Paul. MN, 55101, (612) 221-3456.

# APPENDIX

# MEAL QUALITY SELF-ASSESSMENT INSTRUMENT*

During early school years children are developing attitudes about food that will influence them throughout life. Thus, an important goal for school personnel is to help children establish favorable eating habits that will lead to sound nutritional practices throughout life. To achieve this goal, you should encourage positive attitudes toward food by offering them a variety of nutritious foods in a pleasant and relaxed eating environment. The "Meal Quality Self-Assessment Instrument" has been developed to help food service personnel meet specific nutritional guidelines that are important to the health of children.

Nutritional quality is an important aspect of meal quality. Nutritious meals that are offered to children can foster the development of healthy eating habits. In child nutrition programs federally mandated meal requirements must be followed so that meals served to children are consistently high in nutritional value. To maintain high standards of nutritional quality school food service personnel must periodically examine the meals served. The "Meal Quality Self-Assessment Instrument" may be used by program directors, teachers, food service personnel administrators and students to (1) evaluate their school nutrition program(s); (2) extract information that will indicate the strengths and weaknesses of the program(s); and (3) develop an action plan that will improve the nutritional qualify of meals served in the program(s).

The "Meal Quality Self-Assessment Instrument" incorporates the Dietary Guidelines for Americans and the Meal Pattern Requirements for School the Food Program(s) as the criteria used for judging the nutritional quality of meals. The nutritional guidelines are:

- Provide a variety of foods
- Provide foods that contain adequate starch and fiber.
- Avoid too much sugar.
- Avoid too much sodium and salt.
- Avoid too much total fat, saturated fat, and cholesterol.
- Follow the meal pattern requirements.

The "Meal Quality Self-Assessment Instrument" can be used to help child nutrition programs in providing meals that are consistent with today's ideals of healthful food practices.

* *Source: N.E.T. Program, Nutrition and Food Service Education Section, California State Department of Education.*

# SUGGESTIONS FOR USING QUALITY SELF-ASSESSMENT INSTRUMENT

**In order for the self-assessment instrument to be an effective tool for school food service, the following steps should be followed:**

- Establish a small committee which may include selected persons such as teachers, food service personnel, and parents. One individual from each of these groups is adequate. The effective use of the instrument requires the participation and effort of everyone on the committee.
- Define the purpose of taking the instrument to committee members.
- Distribute the instrument to committee members and set a time line for its return.

**After responding to the questions in the self-assessment instrument, the following should be done:**

- Compile information from the completed questions and share data with committee members.
- Highlight the strengths and weaknesses of the program.

**Committee members should do the following:**

- Review areas where changes may be needed within the program.
- Determine ways to share program strengths with staff and parents.
- Set objectives that will result in the necessary changes needed within the program.
- Prioritize objective and develop a time line for achievement of each objective.
- Develop an action plan that will systematically help achieve each objective. Additional information regarding the development of an action plan is on page.
- Put the plan into effect.

# MEAL QUALITY SELF-ASSESSMENT

**Directions:** Read each question carefully and respond by checking Frequently, Occasionally, or Rarely. Questions that are checked Frequently indicate that the guidelines are being met. Questions checked Occasionally or Rarely indicate that there may be areas in your program that are in need of some change or should be evaluated further.

| | Frequently | Occasionally | Rarely |
|---|---|---|---|
| **A. Guideline: Provide a variety of foods.** | | | |
| 1. Do you offer a variety of: | | | |
| • Fruits and vegetables? | ____ | ____ | ____ |
| • Whole-grain breads and cereals? | ____ | ____ | ____ |
| • Protein foods such as legumes (dried beans and peas), nuts, seeds, fish, and poultry? | ____ | ____ | ____ |
| 2. Do you include different forms of food such as fresh, canned, or frozen? | ____ | ____ | ____ |
| 3. How often to you offer a new food to young children? | ____ | ____ | ____ |
| 4. How often do you have special menus for holidays, theme days, and cultural or ethnic events? | ____ | ____ | ____ |
| 5. Do you involve children in menu planning? | ____ | ____ | ____ |
| 6. Do you provide nutrition instruction materials for stu- dents, teachers, and/or parents? | ____ | ____ | ____ |
| **B. Guideline: Provide foods that contain adequate starch and fiber.** | | | |
| 1. Do you serve whole-grain breads or cereals, such as bulgur, rolled oats, rolled wheat, bran, or cornmeal? | ____ | ____ | ____ |
| 2. Do you serve a variety of fruits (fresh or dried) and/or vegetables? | ____ | ____ | ____ |
| 3. Do you increase fiber in desserts, such as by offering a whole-grain cookie or fresh fruit cup? | ____ | ____ | ____ |
| 4. Do you adjust recipes or menus to improve their fiber ontent? | ____ | ____ | ____ |
| **C. Guideline: Avoid using too much sugar in the preparation of foods.** | | | |
| 1. Do you adjust recipes to lower the sugar or honey content or use recipes that already contain less sugar or honey? | ____ | ____ | ____ |
| 2. Do you substitute low-sugar dessert items, such as fruit, muffins, or quick breads, for high-sugar items, such as frosted cakes, cookies, or brownies? | ____ | ____ | ____ |
| 3. Do you serve canned fruits packed in light syrup, fruit juice, or water rather than canned fruits packed in heavy syrup? | ____ | ____ | ____ |
| 4. Do you eliminate or reduce the addition of jam, jelly, syrup, or honey on food items such as a peanut butter sandwich, toast, pancakes, waffles, or graham crackers? | ____ | ____ | ____ |
| 5. Do you refrain from placing a sugar bowl in the eating area during breakfast? | ____ | ____ | ____ |
| 6. Do you eliminate or reduce sugar or honey coated cereals from the Breakfast program? | ____ | ____ | ____ |
| 7. Do you read food labels in order to choose a product that is low in sugar? | ____ | ____ | ____ |

| | Frequently | Occasionally | Rarely |
|---|---|---|---|
| **D. Guideline: Avoid too much sodium and salt.** | | | |
| 1. Do you limit the amount of salt and salty foods served by: | | | |
| a. Removing salt shakers from dining or serving tables? | ____ | ____ | ____ |
| b. Reducing the amount of salt used in food preparation? (This procedure may not be appropriate for some baked goods.) | ____ | ____ | ____ |
| c. Enhancing foods with spices and herbs, such as dried basil, thyme, parsley, or oregano, instead of with salt? | ____ | ____ | ____ |
| d. Controlling the use of condiments such as mustard, catsup, and relish? | ____ | ____ | ____ |
| e. Reducing the use of seasoning mixes or using season-ing mixes that are lower in salt? | ____ | ____ | ____ |
| **E. Guideline: Avoid too much total fat, saturated fat, and cholesterol.** | | | |
| 1. Do you reduce the amounts of fatty foods used in food preparation by: | | | |
| a. Reducing or eliminating butter or margarine added to vegetables? | ____ | ____ | ____ |
| b. Using cooking techniques such as baking, broiling, and steaming rather than frying and deep fat frying? | ____ | ____ | ____ |
| c. Serving lean meat, poultry, or fish without additional fat or breading? | ____ | ____ | ____ |
| d. Increasing the use of dried beans and peas as alternatives to meat? | ____ | ____ | ____ |
| e. Substituting a low-fat cheese, such as ricotta, farmer, cottage, or mozzarella, for part of the cheese called for in a recipe? | ____ | ____ | ____ |
| 2. Have you reduced the number of times you serve high- salt, high-fat processed foods, such as french fries, frankfurters, corn dogs, cold cuts, potato chips, other chips, and fried chicken or fish portions or nuggets? | ____ | ____ | ____ |
| **F. Guideline: Follow the meal pattern requirements.** | | | |
| 1. Do you offer meals that meet the meal pattern require-ments as outlined by the U.S. Department of Agriculture and the New York State Education Department? | ____ | ____ | ____ |
| 2. Do you serve foods that are good sources of vitamin A, such as carrots, tomatoes, or sweet potatoes, at least four times a week? (For additional examples, refer to USDA Menu Planning Guide, December, 1983, p10-11.) | ____ | ____ | ____ |
| 3. Do you serve foods that are good sources of vitamin C such as oranges, broccoli, or cabbage? (For additional examples, refer to USDA Menu Planning Guide, December, 1983, p10-11.) | ____ | ____ | ____ |
| 4. How often do you include foods that are good sources of iron, such as dried fruits, enriched or whole-grain breads, or dried beans? (For additional examples, refer to USDA Menu Planning Guide, December, 1983, p10-11.) | ____ | ____ | ____ |

# THE ACTION PLAN FOR IMPROVING THE NUTRITIONAL QUALITY OF MEALS

The action plan is a means by which you can outline strategies for making changes in your program.

Use the plan to (1) clearly state your objectives; (2) develop specific activities that will help you meet program objectives; (3) communicate program objectives to staff; and (4) judge your progress in meeting objectives.

A blank copy has been provided for you to develop your own action plan. Also included is an example of an action plan that has been completed for you. Review the example and use it as a model before beginning to develop your own action plan.

# DEVELOPING YOUR ACTION PLAN

**IDENTIFIED PROBLEMS** (Column 1). Review your "Meal Quality Self Assessment" and clearly state identified problems.

**ACTIVITIES** (Column 2). Set an objective, and then clearly state specific activities that will lead you toward successful achievement of your objective.

**RESPONSIBLE PERSON** (Column 3). Pinpoint the key person(s) who will be responsible for carrying out each activity. A copy of the action plan should then be forwarded to those individuals.

**TIME LINE** (Column 4). Provide a reasonable time line for each objective and activity.

**VERIFICATION** (Column 5). Indicate the documentation that will be available when activities are completed.

# Example of Action Plan for Improving Nutritional Quality of Meals

Example: The columns below contain an example of how to write an action plan. Use this as a model for developing an action plan.

| Identified problems (1) | Activities (2) | Responsible Person (3) | Time Line (4) | Verification (5) |
|---|---|---|---|---|
| Rarely use beans and peas in program. | *Learning Objective:* Increase the use of dried beans and peas by serving legumes at least once a month. | All staff members | March 19. | New legume dish was introduced March 30. |
| | *Activities:* • Develop action plan. | Director: P. Krop | October 1. | Action plan developed and distributed. |
| | • Notify staff members and parents of objectives. | Director: P. Krop | October 15. | Memo on file. |
| | • Review and select recipes that can be modified to include the use of legumes. | Committee: A. Smith P. Nuzzi L. Jones C. Brown | October 30. | Selected six receipts to be used in menu planning. |
| | • Develop, modify, and test new recipes. | Cook: P. Nuzzi | January 30. | New recipes on file. Did not meet time line, but activity was accomplished on March 5. |
| | • Include on March menu. | Director: P. Krop | February 5. | Menu on file. |
| | • Contact vendors for products that include legumes. | A. Smith | November 1. | Selection of vendors on file. |
| | • Modify menus to include legume dishes twice a month | Committee | February 15. | New set of cycle menus on file (including offerings of legume dishes.) |
| | • Plan nutrition education activities for students, such as reading stories about legumes, planting seeds, cooking legumes, holding taste testing activities. | Teachers and Food Service Staff | Ongoing. | Ongoing. |

| Identified problems (1) | Activities (2) | Responsible Person (3) | Time Line (4) | Verification (5) |
|---|---|---|---|---|
| | • Share menus with parents and invite them to eat at mealtime. | Director, Classroom Teacher, Administrator | February 27. | List of six parents who ate lunch with their children on March 30th is on file. |
| | • Have students prepare advertising campaign to announce new menu items. | Teachers, Students and Food Service Staff | March 19. | March 29. |
| | • Decorate cafeteria. | Student committee | March 19. | Pictures were taken on March 30. |
| | • Introduce new legume dish. | Committee | March 19. | March 30. |
| | • Eat meals at table with children. | Teachers | March 19 and ongoing. | Ongoing. |

# Action Plan for Improving the Nutritional Quality of Meals

**Directions:**

Column 1: Refer to the "Meal Quality Self-Assessment Instrument." Identify and list problem areas within each guideline. Questions checked OCCASIONALLY or RARELY indicate that there may be areas where changes could be made.

Column 2: Set objectives and develop specific action activities for each objective to improve meal quality.

Column 3: Identify person(s) responsible for implementing each activity listed in Column 2.

Column 4: Set time lines for achieving each activity.

Column 5: State proof of achievement for each activity.

| Identified problems (1) | Activities (2) | Responsible Person (3) | Time Line (4) | Verification (5) |
|---|---|---|---|---|
| | | | | |

| Identified problems (1) | Activities (2) | Responsible Person (3) | Time Line (4) | Verification (5) |
|---|---|---|---|---|
| | | | | |



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